

A Temporal Analysis of Emotions in Girls' Secondary School Physical Education Games
and Fitness Classes

Amber Muir, BPhEd

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Supervisor: Dr. Ken Lodewyk

Faculty of Applied Health Sciences
Brock University
St. Catharines, Ontario

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Dedication

I dedicate this Master of Arts (MA) Thesis to:

My grandmother, Dorothy ‘Any’ Copeland – the strongest, bravest and most loving woman I have ever met. You taught me that determination, hard work and a kind heart is the recipe for reaching my goals. Thank you for your love and support within all my life’s endeavors.

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Abstract

Female enthusiasm towards engaging in physical education (PE) significantly decreases with age as it provides females with positive and negative emotional experiences. This study examined emotions within four grade nine female PE soccer and fitness classes (N = 67). Emotional patterns were studied over time and across two units of instruction and in relation to student grades. A mixed-method approach was utilized assessing the state emotions of shame, enjoyment, anxiety, and social physique anxiety (SPA). Results revealed unsatisfactory internal consistency for shame and thus it was removed. Statistical analysis revealed no significant changes in emotions over time, whereas qualitative analysis found that state emotions were inconsistent. Statistical analysis indicated that students in the fitness classes reported significantly higher levels of anxiety and SPA on the final class ($p < .01$). Qualitative analysis signaled different origins and themes of students' emotions. No predictive relationship between emotion and students' grade was found.

Key Words: Physical education, females, emotions,

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Chapter 1 – Introduction

Adolescent physical activity levels have been significantly decreasing in physical education (PE), physical activity and sport participation with only half of the individuals between the ages of 12 and 17 engaging in enough weekly physical activity to gain the rewards associated with being active (Dishman, Motl, Sallis, Dunn, Birnbaum, Welk, et al., 2005; Humbert, 2006; Lenskyj & Van Daalen, 2006; O'Brien, Martin Ginis, & Kirk 2008). Furthermore, at all ages, females have been documented to spend less time engaged in weekly physical activities and are overall less active than their male counterparts (Dishman et al., 2005; Humbert, 2006; Lenskyj & Van Daalen, 2006; O'Brien et al., 2008). Declining rates of female enrolment within PE is of high concern for educators and health care professionals as many studies have suggested links between students' attitudes towards PE, their physical activity involvement and future healthy lifestyle habits (Duncan, 1993; Barr-Anderson, Neumark-Sztainer, Schmitz, Ward, Conway, Pratt, et al., 2008; MacPhail, Gorely, Kirk & Kinchin, 2008; Hairul, Grove & Whipp, 2008; Smith & St. Pierre, 2009). Further research regarding students' reasoning for withdrawing from PE, physical activity and sport is vital to the understanding of what positively and negatively influences students' participation and affective outcomes in PE.

Student enthusiasm towards engaging in PE drastically decreases with age, specifically as he/she enters middle and secondary school (Baron & Downey, 2007; Ridgers, Fazey & Fairclough, 2007; Barr-Anderson et al., 2008). This is especially true for young adolescent females, as large declines have been documented in their participation within PE, sport and physical activity (Wang & Liu, 2007; Barr-Anderson et al., 2008; Halyk, Brittain, Dinger, Taylor, Shephard, 2010). For example, Pfaeffli and

Gibbons (2010) stated that females develop negative affiliations with PE at an early age (i.e., middle school) and only participate in PE until it is no longer mandatory (i.e., grade nine PE). PE programs are of particular interest for female physical activity as they provide both positive and negative experiences that can either motivate students to become more active and promote future healthy lifestyle habits or deter students away from physical activity altogether. A deeper understanding of how female students interpret the different activities they are exposed to in PE and how these experiences affect their emotions is necessary in order to provide them with positive learning situations.

Research regarding the decline of PE enrolment aims to uncover the factors that influence students to withdraw from physical activity. Although physiological and motivational aspects of PE have been explored through academia, psychological and emotional influences have received only slight interest by scholars. Carraro, Young, and Robazza (2008) suggest that psychological and emotional dimensions are important areas to investigate as they can provide information regarding adolescent participation in PE and physical activity. This statement is supported by similar research that has examined the relationship between adolescents' affect and motivation. Literature has indicated that emotions are a major part of the entire scholastic experience and are salient within the physical activity setting (Duncan, 1993; Hannon & Pellet, 2005). Within a physical activity setting, emotions influence an individual's motivation, learning, socialization, behavior and achievement (Schweinle, Turner & Meyer, 2008; Scott, 2008). Emotions have also been reported to influence students' continual involvement within PE, as they are more inclined to engage in activities they find pleasurable and associate with positive

emotions (Duncan, 1993; Schweinle et al., 2008; Scott, 2008). Levykh (2008) discusses a similar concept indicating that emotions inform an individual about his/her future behaviour and provide them with the opportunity to organize varying resultant actions. To increase the likelihood of prolonged physical activity involvement, it is critical that students experience positive exposure to physical activity both inside and outside of school at a very young age.

Affect and PE research has primarily focused on the two fundamental dimensions of the emotional continuum: either positive affect such as enjoyment or pleasure (Hannon & Pellet, 2005), or negative affect including anxiety and fear (Ridgers et al., 2007). Researchers have also examined the level of emotional change across varying instructional units as students' positive and negative affect and the type of activities one is engaged in have been linked to student enrolment levels. For example, Hannon and Pellet (2005) studied the connection between a student's emotional state and the instructional unit being learned. They reported that the activities utilized within a PE class (e.g., running, traditional sport and fitness), have been found to impact the production of positive and negative feeling states within students. A common theme found among female adolescents is that traditional PE programs highlighting competition, sport and skill-based learning are not meeting their emotional, social or cognitive needs (O'Brien et al., 2008). Female youth have identified that a variety of non-traditional activities, such as lifestyle or fitness tasks and activity autonomy would improve their affect towards PE classes (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Smith & St. Pierre, 2009; Pfaeffli & Gibbons 2010).

Researchers have also documented that an individual's emotions and learning can be influenced by the presence, function and relationship of an audience (Tobin, Graziano, Vanman, & Tassinari, 2000; Yli-Piipari, Watt, Jaakkola, Liukkonen & Nurmi, 2009). Yli-Piipari et al. (2009) found that public performances and evaluations increased students' negative feeling states such as fear of failing the task and worry regarding skill competence. In a PE environment wherein students are continually challenged both physically and emotionally, as their abilities and performance are displayed publicly to their classmates and teachers, emotions have been reported as influential and salient (Ridgers et al., 2007).

1.1 Aim of Research and Research Questions

The aim of this study is to utilize a mixed-methods approach to discover if female high school PE students' state emotions (i.e., enjoyment, anxiety, and shame) fluctuate across and between two units of instruction and how these emotions relate to their PE grade. Four research questions were constructed central to this aim. What relationships exist between state anxiety, enjoyment, shame and social physique anxiety within a single unit of instruction? Do emotions fluctuate over time within a single unit of instruction? Are emotions different across two separate units of instruction? Is there a predictive relationship between student emotion and PE grade?

To further understand the essence of female emotions within the PE classes, three of this study's four main research questions were used as the focus of the qualitative analysis. The aim of the qualitative analysis was to examine the following research questions: Do students' emotion levels change over the course of a single unit of instruction? Are students' emotions different when compared across a soccer unit and a

fitness testing unit? And what is the relationship between a student's emotion and PE grade?

These research questions helped guide the researcher towards her primary intent of gaining a greater understanding of female affect over time and across content units. The information gained from this study may potentially provide valuable input regarding the nature of female students' emotions towards specific unit content and different contextual variables within PE. The researcher intends to recommend potential future implications that may decrease attrition and increase female positive affect and motivation towards PE.

The concepts studied in this project are cutting edge as little to no research has been conducted assessing the characteristics of state emotions over time within a PE setting. Due to the limited amount of information pertaining to the research topic and the study's four main questions, the researcher came to the conclusion that she was unable to confidently develop accurate hypotheses. Therefore, the researcher chose to analyze the information gathered through an analytical and exploratory lens, intending to draw out as much material on the topic as possible.

1.2 Reflexive Journal

Researchers include their own relatable experiences within their writings as a means of recognition and acknowledgement that their background has shaped their developing interpretation (Creswell, 2007). As this study is part hermeneutic in nature, the researcher produced a reflexive journal acknowledging that her own biases, experiences, and knowledge impacted her interpretations of the girls' responses and thus influenced her development of deeper meanings from within the responses. The

following section will include a description of the thoughts and experiences which have shaped the researcher's beliefs and attitudes, as they relate to these young girls, through her involvement within elementary, high school and university PE and varsity sports, as well as competitive team sports.

1.2.1 Elementary PE

The only girl in my family of five athletic children and an avid multiple sport athlete, I grew up assuming that all children love athletic competition and challenge. The girls and boys I played sports with possessed similar characteristics and personality qualities as me; driving my belief that girls and boys were athletically similar. I was a lucky female child as my parents were and still are very encouraging and supportive of my athletic endeavors. Their knowledge of the body and their understanding of the importance physical activity were conveyed to us children at a very young age. They provided my brothers and me with the same teaching and athletic opportunities; providing no differences due to our gender.

I believe this was the reason I experienced such shock and disbelief in my first intermediate PE class. In my grade seven homeroom class, I judged that approximately half of the girls had eating disorders. These were the 'popular' girls whose primary concerns revolved around their weight, clothes and boys. Somewhat oblivious to these girls who spent their recesses 'sun tanning', I spent mine playing soccer and football with the boys. It wasn't until my PE class that I really noticed how my teacher, uneducated in PE, unintentionally encouraged the unhealthy thinking and behaviors of these girls. For example, the first four weeks of my PE class the girls and boys were divided such that the boys played floor hockey on one side of the gym and girls were to dance on the other

side. To add further “insult,” when I asked to play floor hockey I was denied on the basis that it was too dangerous for me to play with the boys.

My intermediate PE experience infuriated me as a female, a highly active individual, and as an athlete. As a competitive athlete outside of school, I was lucky enough to have been exposed to and participated in a variety of physical activities that promoted equal learning environments and the development of athletic skills, teamwork and confidence. However, those students in my class who did not participate in physical activities outside of school PE were limited in their learning of such concepts. Their exposure consisted of the ideas that physical activities are based on gender; that, girls are ‘weaker’ than boys and don’t have to participate in physical activities. Is it fair to students that this was their only learning experience with health and PE?

1.2.2 High School PE and Competitive Team Sports

As I reflected on my high school PE and physical activity experiences, I realized that my vision of what my PE classes were was distorted. I excelled as a PE student and varsity athlete; playing on at least five school teams per year and winning team most valuable player numerous times for various sports. These two settings presented me with an environment that allowed me to express my athletic abilities, feel competent in my skills and enjoy playing with and competing against friends. Through my reflections it became very clear to me that every memory I have regarding PE and varsity sports is positive in nature as I could not recall one definitive negative emotion or experience within these two settings. Thus, as an individual confident in my athletic abilities and comfortable within the PE class and varsity team environment, it was easy for me to be

oblivious of how and what the other students were feeling and thinking regarding their abilities, the lesson tasks, and the learning environment.

For example, my grade nine and ten high school PE classes were single-sexed and divided into specific sport units. The structure of these classes naturally separated the athletes from the non-athletes; individuals of similar skill level and ability practiced and played together. At the time I was totally oblivious to the separation of the class based on ability level and physical appearance. It wasn't until five years later when I was sitting in a PE course at Brock University that the division of my PE class finally became clear to me. I now believe, based on my education and teaching experiences, that the structure of the PE semester into sport-based and fitness-testing units was the main reasoning behind the athletic segregation within my class.

Although my high school PE and varsity experiences provided me with a positive learning environment, my club/rep sports teams presented me with a greater range of emotional feelings. I played both competitive baseball and volleyball for over 12 years. As a high level athlete I spent four nights a week practicing and my weekends competing throughout the summer and winter. In both these sports I experienced emotional and physical highs and lows. Emotionally, the majority of my anxieties and fears arose from feelings of incompetence, stemming from my drive to please and be perfect for the coach. The negative feelings I experienced towards my physical self arose from my physical characteristics of being short in stature and having a small physique as this hindered my ability to play certain positions at as high a level as other bigger and stronger individuals.

As a young athlete my positive experiences and enjoyment for these two sports overshadowed my negative feelings, pushing me to persevere through these challenges

and providing me with the determination I needed to alter my approach to each sport (i.e., learning a new position, training different ways, attending clinics to improve my skill). However, as I grew older, faced new barriers and was continually denied based on my physical characteristics, my passion, confidence, and emotional stability was negatively altered. For example, as a young volleyball player (aged 11-13) I was able to competently attack the ball over the net as my height and the net height were at optimal level. As I grew older the net height was raised, yet my height remained the same and I was unable to play my old positions as taller and stronger girls took over. To remain a competitive player in a game I loved, I decided to switch my position to a back court specialist; I was rotated in for taller individuals in the back court who were unable to pass the ball consistently. This position allowed me to excel as my position did not require height for competent performance and I enjoyed playing this position for many years.

It wasn't until I entered my late teens (16-18 years old) that I experienced continual feelings of negative emotional and physical evaluations. Again my height became an issue, coaches scouted girls taller than me for the same position, insistent that a slightly taller girl would perform the position at a higher level. These were my most difficult sport years, as regardless of my training and skill level I was immediately judged on a physical factor I could not alter. I had similar experiences within baseball throughout the same years further impacting my feelings of competence in my athletic self. My athletic self was slowly being diminished by others preconceived perceptions of me and my ability.

It is interesting to re-examine my past athletic experiences at this time in my life as my PE and sport worlds seem to be two separate entities, neither influencing the other.

Although I was experiencing similar emotional feelings, on my sports teams, to the others students in my PE class, I was unable to recognize my actions and their feelings within the PE setting. Perhaps the reason I enjoyed PE at the level I did is because of the people I surrounded myself with and my previous past experiences.

1.2.3 University PE

I was a first year undergraduate student studying a topic I felt confident I knew health and physical education ‘inside and out.’ I learned very quickly that my experiences within PE and sport were extremely limited and that what I once thought was the essence of PE (sport-based units, elimination games and direct teaching) were educationally outdated. Within that first university year, my world of PE was turned upside down. I learned that it is more beneficial to student learning when they are taught games through broad categories as opposed to specific sports. For example, teaching a PE unit of net-wall games where students learn fundamental movement skills that they are able to transfer across a wide variety of the unit’s games (i.e., overhead smash is used in volleyball, tennis, badminton). Including critical thinking and decision making into the PE lesson were highlighted as key components to teaching PE, something I had never experienced or thought about. I was also exposed to different movement classes; not only were we taught game and sport activities but also experienced how educational gymnastics and dance can be structured to teach progressive movement and skill development within all PE grades. And these are just a few of my many PE learning experiences occurring at Brock University.

With each new learning situation I couldn’t help but reflect on my own past experiences, mainly of my high school PE classes. Through my reflections I felt I was

reliving these experiences ‘out of my body’ and noticing things I had never seen or thought before. One such experience occurred when I was sitting in my PE games class and had just learned that traditionally played dodge ball was considered a ‘wall of shame’ game. This came of great shock to me as in high school we regularly played a game called ‘Teachers’ Revenge,’ which was a combined modified version of soccer baseball and dodge ball. I always thought that the teachers let us play the game as a reward as everyone loved the game; I know I did. Examining my memories of playing Teachers’ Revenge I couldn’t believe how naïve I was; the game was dominated by the ‘athletically capable’ and confident students, myself being one of them. Another very prominent example was during our fitness testing unit. I felt and still believe the task environments produced by the teachers were very inclusive and reduced individual’s perceived self and other evaluations through setting up multiple stations around the gym and allowing students to move from station to station in partners; that is, except the “Beep Test.” Again, reflecting on my completion of this task I realized that although I had no problem completing this test in front of the class. It was a much different experience for other individuals who were less fit or physically skilled. I now understand that this division was never clear to me as an adolescent as I excelled at a variety of games and fitness tasks and did not feel they were affecting me negatively on any level.

Another concept I learned from my undergraduate degree at Brock that impacted my thoughts behaviours and attitudes towards teaching and learning in PE was the ‘whole child’ approach. The whole child approach incorporates the cognitive, the affect and the physical aspects, implying that they are all equally important parts of the child to foster and develop. So much of my past experiences were based on my physical aspects; as an

athlete practices were spent developing my game skills (physical and cognitive) and mastering my techniques. As a PE student, classes were based around skill development and play. Looking back most of my emotional needs were not met by my coaches or teachers, but rather my parents and fellow team/class mates. Since my introduction to the whole-child concept, I approach every teaching and coaching situation with those three aspects integrated equally into my lesson/practice.

1.2.4 My Experiences and their Relation to My Current Study

Revisiting and understanding my past experiences within PE and physical activity allowed me to discover that my emotions played a larger role in my learning than I ever realized. I have personally witnessed the positive and negative aspects of PE, the different effects of the same task and environment on each girl and how one's physical body characteristics have a major impact on feelings, thoughts and behaviours. It is through these various past experiences as a young female enrolled in a similarly structured PE program that I am able to relate emotionally to the girls who participated in my study.

Chapter 2 - Literature Review

2.1 Theoretical Framework

The theoretical framework of this study was grounded in Social Cognitive Theory (SCT). As the originator of the theory, Bandura (1977) asserted that human functioning results through the dynamic interaction of an individual's characteristics (personal factors), behaviour and environmental factors. SCT rejects the notion that individuals are shaped solely through social factors, the external environment or personality traits as separate entities. Rather individuals are active components in their own lives expressing their own thoughts, feelings and behaviours while interpreting and actively attempting to control their external environment (Biddle & Goudas, 1996; Martin & Kulinna, 2005). Bandura (1986) and Burney (2008) add that individuals utilize these three determinants to construct and interpret their social environments. Individuals' perform observations of others and the environment, process their cognitive reflections through self-thoughts and behaviors and utilize feedback to alter their own functioning. SCT also states that an individual's motivation and actions results from the reciprocal interaction between their personal characteristics, behaviour and environment (Lirgg, 2006). The influential magnitude of each factor (both individually and reciprocally) on human functioning is dynamic in nature varying between activities, individuals and circumstances.

Bandura (1977) developed and explained human agency through the interaction of internal and external (social) factors. He found that one's behavior and motivation is affected by how and what one thinks and feels about themselves (personal, contextual, and self-processes) (Conner & Norman, 2005). Individuals rely heavily on self-regulation, including reflection, goals, and anticipated outcomes, to aid in the

development of their internal functioning (Martin & Kulinna, 2005). Behaviour is also regulated by a personal sense of control and forethought such that an expected outcome for a situation can determine how one acts in an attempt to achieve their goal. For example, Conner and Norman (2005) state that behavioural change occurs as the result of perceived competence in one's ability to complete a task successfully, increasing one's drive to engage in such tasks and maintaining their chosen decisions. An important factor in the development of learning and functioning is one's beliefs of self (self-efficacy and agency).

The qualitative focus of this study drew heavily on the theoretical frameworks of phenomenology and hermeneutics, also known as 'hermeneutical phenomenology' (van Manen, 1990). Hermeneutics is the theory and practice of interpretation as researchers intend to learn, understand and make sense of the meanings others have towards the world around them (Paterson & Higgs, 2005). To fully comprehend the phenomenon of interest researchers examine their data in a cyclical pattern moving between analysis of the parts to the whole and back to the parts (Paterson & Higgs, 2005). This aspect of hermeneutic research is called the *hermeneutic circle* as researchers recognize that the parts of the phenomenon are integrated into the whole and the whole contextualizes each of the parts (Paterson & Higgs, 2005). Phenomenology is a qualitative approach in which the researcher describes the meaning and essence of a specific concept through the lived experiences of multiple individuals (Creswell, 2007). Descriptions consist of *what* the participants experienced and *how* they experienced it. The researcher then aims to uncover the commonalities found within the phenomenon and merge individual experiences into a single depiction of the universal essence (Creswell, 2007).

Hermeneutical Phenomenology, as defined by van Manen (1990), involves combining both approaches of research through examining lived experience (phenomenology) and the interpretation of life (hermeneutics) (Creswell, 2007). This style of research is inductive in nature as the researcher builds themes and categories beginning with obvious concepts and moves towards more profound findings, organizing the data into increasingly more abstract units of information. As a part of hermeneutic study, researchers acknowledge that while developing meanings of the phenomenon their interpretations cannot be separated from their own biases, prior understanding and personal, cultural, and historical experiences. Researchers include their own experiences and situations relating to the phenomenon within their writings as a means of recognition and acknowledgement that their background has shaped their developing interpretation, positioning themselves further within their research (Creswell, 2007). The written understanding and description of the phenomenon occurs through the negotiation of what it means to those who have experience it and the researchers own perceptions and meanings (Paterson & Higgs, 2005).

2.2 Emotions

The terms affect and emotion are utilized interchangeably throughout academic literature. Emotional theorists such as Hanin and Weiner, consider affective feeling states with a broad perspective encompassing both general feeling states (i.e., confidence) and emotions (i.e., anger, shame) to be classified as either positive or negative (Vargas-Tonsing, 2009). Similarly, Ferguson (2000) stated that positive and negative emotions are independent entities and not likely to occur together at the exact same moment in time. Affect is defined through its division into two fundamental dimensions positive (pleasant)

and negative (unpleasant) affect. Positive affect refers to pleasant and excited emotion including joy and delight whereas negative affect includes unpleasant emotions such as anxiety, sadness and anger (Matthews, Zeidner & Roberts, 2005; Pringle, 2010).

Emotions are the foundational unit of affect and are described as how an individual interprets a stimulus event (either actual or imagined) in the external environment and his/her resulting awareness of changes in physiological arousal (Ferguson, 2000; Vargas-Tonsing, 2009). Deci (1980) evolved this definition one step further by stating that an individual's emotions can also motivate his/her future actions and behaviors. For example, Vallerand (1983) described emotion specifically in relation to achievement situations through three levels of emotional categories; emotions tied to the outcome, distinct emotions and self-esteem emotions. First an individual experiences general feelings as a result of the situations outcome (i.e., feeling good if successful). Individuals then experience more specific secondary levels of emotions depending on how they have assessed and attributed the outcome (i.e., gratitude when success due to others). Lastly individuals evaluate their internal self and apply attributions leading to feelings such as shame and anger.

An individual's emotions are further divided into two general categories; emotional traits and emotional states. Emotional traits are defined as the "enduring emotional pattern for an individual", whereas emotional states are defined as "acute responses to stimuli and are representative only of a particular moment in time" (Plattner, Karnik, Jo, Hall, Schallauer, Carrion et al., p.157, 2007). This thesis study focused specifically on emotional states as it examined students' immediate or current feelings in response to occurrences within their PE class.

2.2.1 Emotions, learning and achievement.

Educators have recognized the important connection between students' emotions and their ability to learn. Over the past decade teachers have begun to shift their attention towards teaching to the 'whole child' by including, for example, student affect as a component of their lesson (Scott, 2008). The reciprocal relationship between affect and student learning is becoming a research interest, as students' emotional responses are thought to be the result of how they appraise an event or occurrence (Schweinle et al., 2008). Affect and student learning research includes areas such as self-esteem and emotional intelligence, an individual's ability to interpret and manage emotional encounters. A major limitation in this area is that researchers tend to focus on emotion as an outcome rather than as a predictor (Schweinle et al., 2008).

Although the relationship between a student's academic achievement and their affect has yet to be fully explored, research has found that achievement and emotions share an indirect relationship. Petrides, Frederickson and Furnham (2004), state that emotions are unlikely to have a direct influence on scholastic achievement although they interact directly with variables that affect academic performance. Students who recognize that their behavior is influenced by their emotional state have a better understanding of the origins of their behavior as well as strategies that will help them alter their feelings such that their academic performance is not affected (Levykh, 2008).

2.2.2 Emotions and self-regulated learning.

Emotions play an important role within the process of student learning, behaviour and motivation (Levykh, 2008; Schweinle et al., 2008; Scott, 2008; Sagar & Stoeber, 2009). In their study, Shen et al. (2009) discussed that the brain functions as a system in

which both affective and cognitive functions are integrated. These two concepts share an intertwined relationship as cognitions play a large role in the development of an emotional experience and the type of emotion experienced through one's thought appraisal of the situation (Vlachopoulos et al., 1997). For example, several researchers have found that arousal levels are increased in a student when he/she perceives the environment, task or content to be unfavourable (Fredrickson, 2001; Pekrun, Goetz, Titz, & Perry, 2002; Boekaerts, & Cascallar, 2006). At such an occurrence it is the student's interpretation of the altered arousal level that determines his/her resultant 'characteristic emotion' that will be utilized again by the student in similar future situations. The ability to regulate one's emotions varies greatly as some individuals are able to quickly regain control over their feelings whereas others may have a difficult time returning their arousal to normal and focusing on the task at hand (Boekaerts, & Cascallar, 2006).

Emotions are a crucial part of the decision-making and learning process as they stimulate a different kind of thinking, characterized by greater creativity and flexibility in problem solving. Self-regulated learning is defined as a "self-directive process through which learners transform their mental abilities into academic skills" (Zimmerman, 1998, p. 2). It is a style of learning in which an individual is in control of directing and altering his/her motivation, cognitions, affect, behaviour and the environment towards achieving his/her learning goal (Boekaerts & Cascallar, 2006; Lodewyk, Winne & Jamieson-Noel, 2009b). Pekrun et al. (2002) discussed that it is not the emotion itself that has an effect on students' achievement rather it is the self-regulatory learning strategies ('characteristic emotion') that their emotions activate. They found that students who experienced negative affect over time in a mathematics class had decreased self-regulation and

attention to the lesson content, leading to decreased achievement. Lodewyk et al. (2009b) also determined that students who are anxious in a learning environment are less likely to self-regulate their learning in an effective manner. Conversely, positive emotions in mathematics led to increased student self-regulation and attention to lesson content, resulting in increased mathematics achievement (Pekrun et al., 2002). Hoffman (2009) adds that students who express positive affect and relationships with others demonstrate greater emotional engagement and tend to have more social, academic, and life successes.

2.3 Emotions in Physical Education

Literature reporting on studies examining emotions in an educational (classroom based) settings exists, however, there remains a lack of scholarly attention and understanding regarding the specific nature of emotions in PE. Although the influence of emotions on learning is still under-emphasized, physical educators are increasingly recognizing that functional levels in a variety of emotions are an essential aspect of student learning, achievement, participation and continual healthy living (Vlachopoulos et al., 1997; Scott, 2008; Shen et al., 2009). Students have reported that they are more likely to engage within activities that they find enjoyable and that provide them with positive learning experiences (Duncan, 1993; Levykh, 2008; Schweinle et al., 2008; Scott, 2008). This is important as other studies have found that a major factor in female student discontinuation of PE was negative emotional experiences within the course (Rickwood & Temple, 2010). Ridgers et al. (2007) suggests that a major goal for PE teachers should be to provide students with an environment that allows them to experience positive physical, social, psychological and emotional development.

To maintain student's motivation and engagement within physical activity, researchers have suggested that it is crucial for educators to develop an environment which students find personally meaningful, educationally important and positively influence them by providing access to multiple types of activities, autonomy and positive emotional support (Hairul et al., 2008; MacPhail et al., 2008). An example of such pedagogy is reported by Kretchmar (2000) providing three approaches that attempt to make PE and movement more meaningful: the prudential, the intellectual and the affective. The prudential helps students link movement with positive healthy life outcomes, the intellectual provides students with various ties between movement and science (i.e., biomechanics), and the affective approach uses positive feelings to help students relate movement with pleasure (Pringle, 2010).

Through minimal research, emotions have been found to be profoundly dominant within the PE setting. Affect and PE research has mainly focused on the two fundamental dimensions of the emotional continuum, either positive affect, such as enjoyment or pleasure (Hannon & Pellet, 2005) or negative affect including anxiety and fear (Ridgers et al., 2007). Further research is needed concerning gender differences in affect and its relation to behaviour, achievement and performance within PE (Duncan, 1993). Ridgers et al. (2007) indicated two major factors in female withdrawal from physical activity. First, they possess a heightened sense of concern regarding judgments placed on their body from others as body image concerns and peer comparisons increase throughout the developmental period of puberty. For example, Humbert (2006) found that a majority of female students within their study preferred single sexed classes as they felt more encouraged, comfortable and competent within the environment and received less

harassment regarding their body physique and skill level. The second gender difference as listed by Ridgers et al. (2007) concerns physical competence assessment. They found that males are more likely to utilize social comparisons and females more commonly utilize internal information regarding their own performance and success.

A further area of academic interest is how affect relates to the social-evaluative setting of PE lessons. Within a PE environment, students are continually challenged both physically and emotionally as their abilities and performance are displayed publicly to their peers and teachers. Tobin et al. (2000) found that emotions have an effect on a student's ability to learn through the presence, function and relationship of an audience. The constant presence of spectators inevitably leads students to make interpersonal comparisons regarding physical ability and skill (Ridgers et al., 2007). A female PE environment that promotes interpersonal comparisons regarding physical ability and skill can have detrimental effects on emotional motivation towards continual involvement in physical activity.

Research has also explored relations between students' emotions, motivation and the type of activities in which they engage (McAuley, Mihalko, & Bane, 1996; Hannon and Pellet, 2005; Downey, 2007). For example, Hannon and Pellet (2005) indicated that team sport participation was favoured over traditional fitness activities across gender and age. Baron and Downey (2007) found that elementary students' felt more successful while participating in games and gymnastics activities compared to dance. Students also revealed greater motivation towards and enjoyment of game activities over gymnastics and dance tasks. These studies infer that the type of instructional units a student

experiences is significantly related to his/her emotional and motivational behaviours in regular physical activity.

2.3.1 Enjoyment.

Enjoyment is a multidimensional construct in which an individual expresses generalized positive feelings related to excitement, cognitions and competence (Motl, Dishman, Saunders, Dowda, Felton, & Pate, 2001; Yli-Piipari et al., 2009). It can be defined as a "positive affective state that reflects generalized feelings such as pleasure, liking, and fun" (Scanlan & Simons, 1992, p. 203). Yli-Piipari et al. (2009) describe enjoyment, in specific regards to PE, as the intrinsic motivation to continually engage in physical activities. Enjoyment has also been utilized interchangeably with the term 'fun' to express positive experiences in PE, however MacPhail et al. (2008) explain there is a difference between the meanings of the two words. The distinction lies in the sense of achievement and competence one feels in a situation. Students are able to experience fun, regardless of their performance if positive external criteria are met, whereas enjoyment is heavily dependent on the individuals' level of performance and their perceived competence for a specific activity. To foster student enjoyment within an activity the combination of cognitive awareness and affective interpretation is vital. Henderson, Glancy and Little (1999) state that interaction of cognitive elements (e.g., setting goals, feedback on performance) and affective elements (e.g. altered sense of time, sense of control) influence one's perception and experience of enjoyment. For example, Motl et al. (2001) stated that feelings of enjoyment derived from PE are influenced by ones thoughts and behaviors. One feels enjoyment when he/she is provided with positive reinforcement for his/her behaviour within the current physical task.

Emotional experiences derived through PE and/or physical activity have a major impact on student's regular involvement with PE, physical activity and sport, specifically ones feelings of enjoyment. It is well documented that the most significant determinant of students' positive attitudes toward and continual enrolment in PE and physical activity is enjoyment (Carroll & Loumidis, 2001; Motl et al., 2001; Ishee, 2003; Barr-Anderson et al., 2008; MacPhail et al., 2008; Smith & St. Pierre, 2009; Yli-Piipari et al., 2009).

Presenting a PE environment that can be an enjoyable experience for all students is vital to enhancing positive attitudes towards current and continual healthy activity behaviours (Barr-Anderson, Young, Sallis, Neumark-Sztainer, Gittelsohn, Webber, Saunders, Cohen, & Jobe, 2007; MacPhail et al., 2008). Research also discovered a link between PE enjoyment and extracurricular activity levels such that students who find PE classes to be fun and enjoyable are more likely to avoid sedentary activities and engage themselves in physical activity and sport outside of school (Motl et al., 2001; MacPhail et al., 2008). For example, Barr-Anderson et al. (2008) discovered that increased enjoyment within PE resulted in higher levels of physical activity in adolescent girls. This study also indicated that female enjoyment of PE had stronger associations with physical activity than that of males.

Enjoyment and gender.

Enjoyment within PE has been documented by numerous researchers as being positively associated with continual participation in physical activity and PE in both males and females (Barr-Anderson et al., 2008; MacPhail et al., 2008; Smith & St. Pierre, 2009). Research evidence suggests that although enjoyment is crucial for maintaining involvement within PE for both sexes, a specific focus on enhancing enjoyment within

female PE is crucial as girls express less enjoyment than boys (Lenskyj & Van Daalen, 2006). Barr-Anderson et al. (2008) and Hairul et al. (2008) determined that males perceived levels of PE enjoyment were similar across a variety of ages, whereas female levels of enjoyment were typically lower than males, illustrating a steady decline with an increase in age. In another study by Barr-Anderson et al. (2007) they determined that white females expressed higher levels of enjoyment and self-competence in physical activity but lower levels of enjoyment in PE than all other racial and ethnic groups. It was also found that girls who participated in physical activity outside of school had higher PE enjoyment than those who did not.

Researchers have proposed a variety of reasons outlining potential causes for this division in gender. Carroll and Loumidis (2001) suggest that girls have lower perceived competence in physical activity skills and therefore are less motivated towards PE. Barr-Anderson et al. (2008) recognized that BMI levels were associated with female PE enjoyment indicating that body size may influence girls' motives and positive experiences within PE. For example Fairclough and Stratton (2006) found that enjoyment and perceived confidence was at the highest level in normal weight students whereas overweight students' reported the lowest levels. This finding indicated that overweight girls were less likely to engage in extracurricular activities however their lower levels of enjoyment did not mean they disliked PE.

Enjoyment and the physical education environment.

Further research regarding enjoyment in PE has identified three important determinants that influence this emotional state; the teacher, the type of instructional unit and perceived competence (Hairul et al., 2008; Smith & St. Pierre, 2009). The teacher is a

critical part of the PE experience such that his/her attitude, personality, interaction/communication skills and instructional method have major influences on student enjoyment. For example, Smith and St. Pierre (2009) and Humbert (2006) found that students' enjoyment was highly influenced by their teachers' enthusiasm, approachable and respectful nature, caring persona and verbal and nonverbal interactions. These studies also indicated concepts such as teacher feedback, support and teaching strategies were highly important factors that contributed to a positive PE environment (Cai, 1998; Smith & St. Pierre, 2009).

The second influential factor is that student enjoyment is affected by the type of activity one is engaged in. Baron and Downey (2007) discovered that at a very young age children have already begun to show altered levels of enjoyment within various activities. In another study, Smith and St. Pierre (2009) discovered that overall students' experienced the most enjoyment from team sports as these activities provided them with feelings of competition, affiliation and belonging. A gender discrepancy was documented by Hairul et al. (2008) as they stated that the type of activity reported higher in enjoyment for males was team sports, whereas females' enjoyed more individual activities.

The third and final influential concept that sustains a student's positive emotional state is perceptions of his/her ability, learning and improvement, mastery and task difficulty. For example, Humbert (2006) found that students' reported higher levels of enjoyment when participating in activities that were optimally challenging as they perceived their skill level as appropriate to be successful. Conversely, students' enjoyment levels were low when perceived teachers and/or peers expectations were not met through skill and/or performance (Smith & St. Pierre, 2009). Students also

documented that the level of challenge an activity holds influences their enjoyment. Tasks considered easy and not physically demanding decreased student motivation and positive feeling states (Crocker, Bouffard, & Gessarol 1995; Fairclough, & Stratton, 2006; MacPhail et al., 2008; Smith & St. Pierre, 2009).

Social interactions and peer affiliations have also been reported as primary elements of PE enjoyment. MacPhail et al. (2008) and Humbert (2006) stated that students' enjoyment was enhanced through a sense of belonging, comfort, learning and the building of friendships. Students within these studies indicated that peer acceptance had a strong impact on their enjoyment levels. A positive environment that encourages student interaction, cooperative learning, peer socialization and teamwork has also been linked to increased PE enjoyment in children (Hairul et al., 2008; Smith & St. Pierre, 2009).

2.3.2 Anxiety.

Anxiety occurs as a negative emotional reaction to changes in arousal when an individual perceives a stimulus (real or imagined) to be a threat towards his/her self-esteem and ego identity (sense of self) (Ferguson, 2000; Kirk, Burgess-Limerick, Kiss, Lahey, & Penney, 2004; Liukkonen, 2007). Liukkonen (2007) defines general anxiety as an “unpleasant emotional state elicited by a non-specific and non-conscious danger” (p. 59). The Multidimensional Anxiety Theory, proposed by Martens, Burton, Vealey, Bump, and Smith (1990) within sport literature, describes anxiety as containing two separate dimensions, the cognitive and the somatic. Anxious responses to a task may involve cognitive events (e.g. negative thoughts such as worry) or physiological events (e.g., feelings of tension) (Kirk et al., 2004; Lodewyk et al., 2009b). Cognitive anxiety

occurs in response to one's perceptions of a situation and only discontinues when the appraisal is no longer seen as a threat, if no appraisals occur then anxiety is not induced (Ekkekakis, Hall, & Petruzzello, 1999). During an anxious state one's memory, attention control, and retrieval efficiency are affected, heightening cognitive anxiety and decreasing performance (Liukkonen, 2007). Cognitive aspects of anxiety include negative expectations about performance, and concerns regarding oneself, the situation, and potential failure.

Somatic anxiety is characterized by physiological and affective elements including changes in the autonomic nervous system, such as rapid heart rate, body tension and clammy hands (Ferguson, 2000). Physiological anxiety can be viewed as beneficial or detrimental to performance as they share a curvilinear relationship. At optimal levels somatic anxiety can have a positive effect on performance, once the individual's anxiety increases past this point his/her performance seems to decline as he/she experiences over arousal (Kirk et al., 2004; Rickwood & Temple 2010). Research studies and theories specific to anxiety and performance have yet to fully understand the entire relationship, however, they agree that anxiety is a multidimensional concept encompassing three interacting factors somatic, cognitive and behavioural (Polman, Rowcliffe, Borkoles, & Levy, 2007; Yli-Piipari et al., 2009).

State and trait anxiety.

Anxiety is elicited through both dispositional (trait) and situational (state) constructs. Research has shown that trait and state anxiety are not two completely separate entities. For example, Rickwood and Temple (2010) found that highly trait anxious individuals expressed elevated levels of state anxiety when aroused. Trait anxiety

refers to the dispositional characteristics of an individual to perceive a wide variety of non-threatening stimulus and circumstances to be frightening (Ferguson, 2000; Rickwood & Temple, 2010). It reflects differences in one's perceptions of frequency and intensity of future threatening events (Liukkonen, 2007). State anxiety represents an individual's sense of uncertainty regarding the consequences that exist in a particular situation. Rickwood and Temple (2010) describe state anxiety as situational and triggered by arousal as the individual experiences feelings of apprehension, uncertainty and tension. Individuals may experience both physical (i.e., increased heart rate) and psychological (i.e., negative thoughts) effects as his/her arousal increases throughout the situation (Ekkekakis et al., 1999). The resultant characteristics of this anxiety are short lived and can be diminished quickly with completion of the task (e.g., finish test) or removal from the situation. Lodewyk, Gammage and Sullivan (2009a) revealed that high levels of state anxiety prompts negative consequences including low performance, perceptions of fear and low capability, and a negative evaluation of self.

State anxiety in a PE setting is limited in research information and typically focuses on the connection between student anxiety and performance. For example, acute bouts of physical activity (i.e., aerobic activities) can reduce levels of state anxiety through altering the student's current physiological and psychological state (Focht & Hausenblas 2003; Rickwood & Temple, 2010). Furthermore, exercise reduces the production of the hormone epinephrine, which is related to stress and anxiety and can positively influence an individual's feeling state and self-efficacy. Despite the little attention received in this area, childhood and adolescent anxiety is extremely prevalent, occurring in at least one child per elementary class (Rickwood & Temple, 2010).

Anxiety in physical education.

A common theme found among anxiety-based studies is that PE lessons can elicit feelings of anxiety for students and potentially deter students away from continual engagement in physical activity. For example, Liukkonen (2007) discussed that although PE lessons are usually considered enjoyable they can also cause students to experience negative feelings (e.g., anxiety). Rickwood and Temple (2010) found similar results, as the most significant emotions described by students regarding their PE classes were negative (i.e., insecure, fearful, nervous, and inadequate) and related to anxiety. A prominent contributor to students' anxiety is the competitive, comparative and evaluative nature of PE, although some individuals have reported these aspects as pleasurable. PE classes that promoted the regular use of peer comparisons and social evaluations were found to induce the greatest amount of anxiety in students (Focht & Hausenblas 2003; Rickwood & Temple, 2010). This is further illustrated through a study conducted by Polman et al. (2007) as they found similar results in their research on competitive sports team athletes wherein team and experienced athletes had lower levels of anxiety than those engaged in individual sports and who had less playing experience.

Anxiety is also heightened when students considered their class evaluations and assessments to be highly important and perceived their ability and performance to be threatened by the task (Focht & Hausenblas 2003; Yli-Piipari et al., 2009). For example, Rickwood and Temple (2010) reported that when students were presented with physical and psychological challenges in a PE task their anxiety was increased if they perceived the task goals to be above their skill level and unachievable. Interestingly, this study also found that if students' perceived the challenge as positive and within their ability level

anxiety was facilitative towards their performance. Yli-Piipari et al. (2009) found similar results indicating that anxiety can be utilized in PE situations as a motivational tool.

Recurring anxious states can prompt low self-concept, learned helplessness and use of self-handicapping strategies and may potentially result in inhibited motivation towards PE (Liukkonen, 2007). For example, Lodewyk et al. (2009a) discussed the negative effects of anxiety on student learning, motivation and performance in PE. They found that students who possessed high anxiety articulated heightened concerns regarding performance and illustrated inefficient abilities to regulate their attention and learn new concepts. They suggested that highly anxious individuals are fearful of uncontrollable situations as they do not perceive their ability to cope as adequate. Liukkonen (2007) also indicated that external factors impact anxiety levels within PE. Student anxiety is increased through uncontrollable physical factors (e.g. low fitness, inadequate body build), psychological factors (e.g. low interest, dislike of subject) and environmental factors (e.g., poor facility and equipment).

2.3.3 Social physique anxiety.

Physical activity research has also explored the concept of social physique anxiety (SPA), a sub-category of social anxiety (Hart, Leary, & Rejeski 1989; Petrie, Diehl, Rogers, & Johnson, 1996; Kruisselbrink, Dodge, Swanburg, & MacLeod 2004; Rickwood & Temple, 2010). SPA is defined as the “anxiety that people experience in response to others evaluations of their physiques” (Hart et al., 1989, p. 94). Individuals who experience SPA perceive that their body’s physique (e.g., body form and structure) is being negatively evaluated by those around them (Eklund, Mack, & Hart 1996). SPA is also experienced when individual’s believe they are unable to competently demonstrate

physical skills and perceive others evaluations of his/her incompetency and performance as negative (Ridgers et al., 2007; Rickwood & Temple, 2010). SPA results from one's unrealistic negative perception of his/her body or the feeling of being objectively unattractive (Hart et al., 1989). SPA shares similar constructs with body image, intrapersonal evaluations and attitudes towards one's body. Theorists have determined that researching further into SPA would specifically provide useful information and understanding towards exercise behavior (Eklund, & Crawford, 1994; Petrie et al., 1996).

Social physique anxiety in movement settings.

Body image concerns and perceptions of dissatisfaction with one's body in active settings are reported as consistently higher in females than males (Hart et al., 1989). Eklund et al. (1996) found that across both college and middle aged individuals, females reported significantly higher levels of SPA than their male counterparts. Suggested reasoning for this difference is that women are more conscious of their physique and body weight as a result of higher social and environmental demands to have the ideal figure (Petrie et al., 1996). Research conducted assessing women's levels of SPA found that individuals with high levels of SPA were taller, heavier and had higher body fat percentage than those women who reported low levels of SPA (Hart et al., 1989; Eklund & Crawford, 1994; Petrie et al., 1996). These findings relate to Focht and Hausenblas (2003) results of an inverse relationship between SPA and exercise patterns such that high levels of SPA appear to deter individuals away from participation.

Another major contributor of female SPA is whether the setting emphasizes or de-emphasizes internal factors (i.e., physique, clothing etc.) (Eklund & Crawford, 1994; McAuley et al., 1996). In their study, Eklund et al. (1996) found that SPA had a high

negative association with a setting that emphasized one's appearance (i.e., tight clothing) and body figure. Hart et al. (1989) reported similar findings, stating that highly anxious individuals are likely to avoid situations in which they perceive their physique will be evaluated by others (e.g., swimming in public) as well as those activities which highlight their physique (e.g., aerobic activities). In regards to physical activity they suggest that the individuals who are in dire need of exercise are the least likely to involve themselves in it due to their perceived concerns of others negative evaluations of themselves (also see Focht & Hausenblas 2003).

Social physique anxiety and gender.

SPA research has examined adolescents as this time period marks drastic changes in one's body and body image. A majority of researchers have focused on young females SPA in relation to PE, as they have been reported to possess lower perceptions of their figure and ideal body type relative to males (Irwin & Tucker, 2006). O'Brien et al. (2008) and Lodewyk et al. (2009b) discussed that adolescent puberty is a crucial period of body composition that elicits increased sensitivity to and engagement in anxiety-inducing peer comparisons. This is particularly true for females as they place greater importance and value on maintaining a peer-accepted body. The changes that occur in puberty move females' perceptions of their body further away from the ideal figure increasing their social anxiety and potentially leading to decreased interest in and avoidance of PE activities (Hart et al., 1989; Irwin & Tucker, 2006).

Public performances, open social comparisons and evaluative activities found within PE have also been reported to increase female students' sense of physique anxiety and dissatisfaction with their body (Humbert, 2006). The presence of SPA has

implications for what activities individuals' engage in and with whom, when and where they participate and the emotions they experience while engaged in them. For example, Eklund and Crawford (1994) found that girls who reported high levels of SPA were more aware of the presence of the opposite sex and were less likely to engage in a co-educational class. Other main factors related to heightened SPA and decreased participation levels in PE are student apparel, judgmental social evaluations and perceived competence (Crawford & Eklund, 1994; Humbert, 2006; Rickwood & Temple, 2010). Emotional states related to one's body and its evaluations have also been expressed through feelings of shame, guilt and pride (Sabiston, Brunet, Kowalski, Wilson, Mack, & Crocker, 2010).

Fear of negative evaluation.

The construct Fear of Negative Evaluation (FNE), the socially evaluative aspect of SPA, has also been examined in physical activity research. This anxiety is characterized by a fear of negative peer evaluation, distress over evaluative situations and thoughts that others would negatively evaluate oneself (Ridgers et al., 2007; Rickwood & Temple, 2010). High FNE individuals utilize avoidance behaviours towards activities in which they perceive their self will be evaluated negatively. These individuals will also seek out feedback from close others to reinforce that harmful evaluations were avoided (Ridgers et al., 2007). In specific regards to PE, little research has been conducted on this topic, limiting the amount of information regarding the major effects of FNE on student's attitude, performance and emotion. Researchers have determined that the public performance nature of the PE environment inevitably promotes peer comparisons between students regarding their abilities, physique and skill level. This can cause

increased levels of anxiety in individuals with FNE as he/she feels they are unable to avoid being evaluated (Ridgers et al., 2007). The modification of PE lessons to focus more on internal improvement, self-referenced progress and individual competition may allow these individuals to feel more comfortable and confident in PE. This is extremely important for adolescent girls as FNE levels increase drastically during this time period corresponding to high levels of PE dropout (Ridgers et al., 2007).

PE research has further reported that there are major differences in the levels of FNE not only between genders but also across age. For example, Ridgers et al. (2007) discovered gender differences between apprehensions towards negative evaluations and expectations that others would evaluate them negatively. Girls are reported to be typically more fearful than boys of negative evaluations from peers and they generally have higher levels of FNE (La Greca & Lopez, 1998; Ridgers et al., 2007). La Greca and Lopez (1998) found similar results in both elementary and secondary school PE, suggesting that girls' expressed higher concern for others' judgments and negative evaluations of behavior as well as higher levels of sensitivity and internalization of issues. A second gender and age difference is that girls had lower perceptions of competence than boys and older females expressed the highest levels of FNE and lowest perceived competence. Feelings of incompetence may lead to avoidance behaviours in individuals with high FNE as they attempt to decrease the opportunities for others to negatively evaluate them resulting in decreased interest in activities they find challenging and withdrawal from PE (Ridgers et al., 2007).

2.3.4 Shame.

Shame is considered the main concept within fear of failure, one's drive to avoid failure in evaluative and performance activities based on anticipatory negative consequences of that failure (i.e., embarrassment, failure to achieve meaningful goals) (McGregor & Elliot, 2005; Sagar & Stoeber, 2009). Shame is a highly negative internal state that involves disruption of cognitive, affective and behavioural components (Lewis, 2004; Elison, 2005; Lewis & Sullivan, 2005). Shame is a highly devastating and painful emotion as it causes one to negatively view oneself believing that one's entire global self is a failure and defective, taking entire responsibility for their failure (Tangney, Wagner, & Gramzow 1992; Gruenewald, Kemeny, Aziz, & Fahey, 2004; Lewis & Sullivan, 2005; McGregor & Elliot, 2005; Sagar & Stoeber, 2009). Elison (2005) defines shame as an "affect evolved by social selection and elicited by perceived devaluation" (p. 2). A shamed individual experiences a devalued self through feelings of self-failure, incompetence and worthlessness. This elicits a sense of negative exposure causing the individual to feel a pressing desire to hide or disappear from others (Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996; Lewis & Sullivan, 2005; Sagar & Stoeber, 2009). Shame is characterized by avoidance and withdrawal tendencies such as intense feelings of wanting to hide or shrink one's body, disappearing from the situation, and lowering one's gaze away from social contact (Tangney et al., 1992; Lewis, 2004; McGregor & Elliot, 2005). Shamed individuals also tend to avoid situations in which they perceive they will fail and are oriented towards failure (McGregor & Elliot, 2005).

Emotional theorists have divided shame into two polar categories: external shame and internal shame. Gilbert (1998) defines external shame as the real or imagined

negative evaluation one believes to be received from others regarding oneself. Individuals experiencing this type of shame fear that they will never be viewed positively by others as they feel they are constantly being judged, ridiculed, and scrutinized. Socially anxious individuals also express high levels of shame, as they are fearful of experiencing feelings of failure in different environments (McGregor & Elliot, 2005). Internal shame is derived solely from negative self-image and self-judgments, causing the individual to feel as if they were becoming his/her undesired self (i.e., flawed, worthless) (Gilbert, 1998; McGregor & Elliot, 2005). Internal shame is also heightened when an individual cognitively recognizes that he/she has not met his/her goals, has fallen short of set standards or failed to meet personal requirements and he/she attributes this failure to lack of ability (Gilbert, 1998; McGregor & Elliot, 2005; Sagar & Stoeber, 2009).

Shame is a self-conscious evaluative emotion meaning that it is grounded in the evaluation of one's own behaviour against a standard. Self-conscious emotions include pride, guilt and shame and are important aspects of individual's thoughts, feelings and behaviours as they are based in social relationships, reciprocal judgments and evaluations (Sabiston et al., 2010). The production of these emotions is dependent on specific cognitive processes and evaluations of self that occur in response to the current situation (Lewis, 2004; Sagar & Stoeber, 2009). For example, Lewis and Sullivan (2005) state that self-conscious evaluative emotions require one to learn behavioural norms and the evaluation of actions and behaviours in relation to standards, rules, and goals. Shame is produced through one's interpretation of an event not just the situation itself and can occur both privately and publicly. Specifically, shame occurs when an individual evaluates his/her global self negatively and holds his/her self responsible for failure or

becomes aware of others negative evaluations (Tangney et al., 1996; Gilbert, 1998; Lewis, 2004; Sagar & Stoeber, 2009).

Shame in movement settings.

Research has also been conducted regarding the concepts of shame and education and shame and physical activity/sport. The information from these studies can be transferred reliably to a PE setting as the constructs of education and sport share similar content and/or environmental structure with PE. Research in physical activity has indicated that feelings of shame are increased when an individual is exposed to social evaluation. Humans are social beings that possess fundamental motivations to belong and be accepted by others. When one is placed in a situation that threatens his/her social self, increased feelings of low social worth result (e.g., shame) (Gruenewald et al., 2004; McGregor & Elliot, 2005). Additionally, individuals who perform in social evaluation conditions tend to experience higher levels of post-stress shame (Gruenewald et al., 2004). Sagar and Stoeber (2009) discussed that the public performance setting of sporting activities exposes athletes to self and peer negative evaluations as failures and mistakes can be blatantly observed affecting their emotional state and performance.

Shame has also been found to motivate individuals to alter their behaviour and avoid people and situations that may elicit negative emotion (i.e., self-evaluations of being inferior to others) (Gilbert, 1998; Lewis & Sullivan, 2005). Most athletes believe themselves to be competent and capable within their mastered area such that performance failure is perceived as shameful and fearful. For example, Sagar and Stoeber (2009) reported that athletes' feelings of shame were increased when they experienced

perceptions of high coach pressure and when they felt unable to meet their parent's high expectations and criticisms.

Shame in physical education.

Academic research concerning the relationship between shame and its effects on student's participation, engagement and motivation within the PE setting has received little attention. Researchers studying this area have focused mainly on gender differences and body related issues. Lenskyj and Van Daalen (2006) discussed issues related to physiological changes that occur during puberty and how these changes can drastically alter a girl's physical and psychological perceptions of her bodies. Physically girl's bodies can become a source of embarrassment and shame as they are no longer able to produce athletic movements as fluently as they once did. Psychologically these changes can cause decreases in self-esteem, body image and confidence as one is unable to perform skills and tasks successfully. These negative experiences of fear, failure and humiliation remain prominent in females' minds and are associated with the drastic decline in PE involvement.

Researchers have also explored shame in regards to co-educational classes. For example, Evans (2006) reported that the majority of females indicated they would not enjoy participating in a PE class that contained boys because they would be ashamed to participate in front of them. This sense of shame was reliant on the resulting low levels of perceived competence in female's physical skills, physique and attractiveness when comparing one's self to boys (Evans, 2006; Lenskyj & Van Daalen, 2006). Girls have also reported that verbal and/or physical harassment and nonverbal threatening behaviors focused towards their physique caused increased levels of shame and embarrassment and

resulted in perceiving the environment to be uncomfortable and fearful (Lenskyj & Van Daalen, 2006).

2.4 Emotions in Games Classes

2.4.1 Games in physical education.

Games in PE are separated into three dimensions: individual performances, partner or dual games, and team sports (games). This study focused specifically on a team game of soccer to assess students' affect within a group based setting. Team games – the coordination of a group of players to work together in an attempt to maintain, and/or gain possession such that they are able to score – are further divided into four categories (Grehaighe, Godbout & Bouthier, 1997). The four team game categories as outlined by Melograno (1996) include net wall games, invasion games, striking/fielding games and target games. Team games are integrated within the PE curriculum at the elementary level as 'developmental games'. These activities develop students' fundamental movement and motor skills of locomotion, manipulation, and stability (e.g., running, throwing, catching, kicking) (Course Profile, 2001; Baron & Downey, 2007). The secondary PE curriculum builds from this framework and introduces 'formal games' that integrate students' cognitive domain (e.g., knowledge, strategies), affective domain (e.g., feelings, values) and psychomotor domain (e.g., motor skills, fitness outcomes) (Ministry of Education and Training, 1999).

According to Rink (2002) team games are typically divided into separate instructional units that last approximately three weeks, providing students with a reasonable amount of time to practice and refine the skills and tactics learned. To assess student knowledge and understanding both formative and summative measures are

utilized within each team game unit (Hay, 2006). Formative assessment (e.g., self or peer evaluations, checklists of skill technique) occurs during the unit to help students improve their skills and personal competence while making adjustments in their learning process. Richard, Godbout, Tousignant, and Grehaigne (1999) found that peer assessment was a valuable form of evaluation that encouraged student learning and understanding of game concepts. Summative evaluation occurs at the end of the unit and assesses student achievement against a standard measure (e.g., observations, portfolios, written tests). Grehaigne et al. (1997) identified four general strategies for collecting measurements of player's performance in team sports: standardized tests (e.g., specific skill task), statistics derived from competition (e.g., total points scored), rating in standardized setups (e.g., rating the quality of technique) and rating during the game (e.g., quality and quantity of performance).

2.4.2 Games instruction in physical education.

The instruction of games can be completed in numerous ways; however, there are two major teaching methods that are typically utilized: direct and indirect instruction (Rink, 2002). Direct instruction is the traditional approach to teaching games and is characterized by the instructor as an authority figure who clearly describes and demonstrates highly structured tasks to students (Melograno, 1996). This style of instruction is most effective in teaching the correct technique of a specific motor skill. For example, Byra (2006) states that although teacher centered (direct) methods are the most widely used approaches to instructing PE games, student centered instructional styles (indirect) are becoming utilized more frequently. An indirect approach includes the teacher as a facilitator of knowledge and encourages students to take more responsibility

in their learning experiences (Rink, 2002). Two types of indirect methods that focus specifically on teaching games are Sport Education and Teaching Games for Understanding (TGFU). Sport education places emphasis on student knowledge and understanding of the skills, strategies, and ethical principles that are present in societal sport, through six primary features: seasons, affiliation, formal competition, culminating event, record keeping and festivity (Melograno, 1996). TGFU approaches teaching games through integrating the development of physical skills with strategic thinking and problem solving (Kirk & MacPhail, 2002). This model includes six sequential steps of game, game appreciation, tactical awareness, making appropriate decisions, skill execution, and performance. Indirect methods have been found to be more beneficial when teaching students higher-order thinking and independent learning (Melograno, 1996; Kirk & MacPhail, 2002; Rink, 2002).

2.4.3 Emotions and instructional game units.

The instructional units of PE (e.g., games, gymnastics, dance, and fitness) provide students with very different environments, tasks, and learning situations. Participation within these distinct activities has been shown to cause alterations in students' attributions for success (Baron & Downey, 2007) and enjoyment (Smith & St. Pierre, 2009). Affective responses to game participation are heightened when the focus of the task outcome is based solely on external rewards (i.e., winning or losing). The successful completion of the task causes individuals to experience positive feeling states (i.e., pride, enjoyment) whereas failing the task results in negative emotional responses such as shame, anxiety and fear of failure.

In previous research students have indicated that their enjoyment within a PE class was reliant on activity preference (e.g., a game skill task versus creative movement of dance), teamwork, challenge, and competition (Baron & Downey 2007; Smith & St. Pierre, 2009). Team-based activities, a major component within secondary PE curricula, provided students with exposure to team sports where they are able to compete against each other, interact, and engage in team work. Baron and Downey (2007) suggest that it is the autonomous nature of the team game activities that increase students' enjoyment and motivation to participate. Other researchers have discussed how the dominant nature of team sports within the PE curriculum causes negative affective responses in students and overshadows other activities that have a greater likelihood of motivating students to stay involved in physical activity into adulthood (Sagar & Stoeber, 2009; Pfaeffli & Gibbons 2010; Pringle, 2010). For example, Pringle (2010) reported that PE team sport and game lessons are the source of great displeasure in some students as they experience feelings of embarrassment, boredom and shame.

Students have also reported that an environment which promotes the refinement of their fundamental skills and helps them recognize the transferability of the skills learned provides them with a more enjoyable and productive learning setting (Ministry of Education and Training, 1999; Course Profile, 2001). For example, Wiersma and Sherman (2008) discussed that games and activities which emphasize maximize participation, play, and personal development and improvement were beneficial to students' learning and positive feelings towards continual participation. Findings further indicated that higher perceived competence in sporting activities was associated with less emotional and behavioral disturbances (Donaldson & Ronan, 2006). Team games may

also cause an individual to experience increased negative affect through public performances and social evaluations (Humbert, 2006; Ridgers et al., 2007; Sagar & Stoeber, 2009). Individuals who continually experience negative affect while engaged in game like activities are reported to eventually discontinue participation in PE and physical activity (Lenskyj & Van Daalen, 2006; Sagar, Lavalley, & Spray, 2009; Pringle, 2010).

2.4.4 Gender differences in emotions during games.

Gender differences have also been observed regarding students' enjoyment level and the type of physical activity boys' and girls' prefer. For example, Hairul et al. (2008) determined that team activities (e.g. football) were enjoyed more by males whereas females experienced more enjoyment when engaged in individual activities (e.g., dance). Adolescent boys have also reported that competition and winning were important aspects of their PE experience and increased their levels of enjoyment (Humbert, 2006). Pfaeffli and Gibbons (2010) reported that negative affective feelings (i.e., dislike) towards competitive tasks and team sports were expressed in females as early as middle school. Girls were found to express higher levels of enjoyment in learning new activities and non-traditional activities such as dancing and aerobics (Humbert, 2006; Lenskyj & Van Daalen, 2006). Lenskyj and Van Daalen (2006) suggest the reasoning for gender differences in activity preference is that girls feel more comfortable, equitable and competent in new learning situations. Further research considering the implications that gender activity preference has on PE enrolment needs to be conducted as a majority of PE teachers still implement a team sport and competition based model which can be detrimental to female emotions and potentially lead to discontinuation within PE.

2.5 Emotions and Fitness Testing in Physical Education

Fitness testing assessment programs have been a mandatory part of most Health and PE curricula since their inception in the 1950s by President Dwight Eisenhower and his President's Council on Youth Fitness and Sports (PCPFS) (Cooper, 1991; Deng Keating, & Silverman, 2004). The purpose of implementing a nationwide standardized fitness test was to improve the fitness of America's children and youth. This fitness test was modified in 1958 by the American Alliance for Health PE Recreation and Dance (AAHPERD) to focus on the natural power, speed and agility of students. A requirement of the test stated that students had to score in the top 15th percentile on all tasks. This resulted in only one percent of students successfully passing (Cooper, 1991). Almost a century later an institute for aerobics titled Fitnessgram redeveloped the PE fitness test with the purpose of establishing realistic testing and to encourage acceptable health standards attainable for all children (Cooper, 1991). Unfortunately this and most other methods of fitness testing are designed to find out how 'fit' a child is and do not address two main focuses of health related fitness; how healthy a student is and how prepared they are to participate at various levels of athletic activity (Cooper, 1991). This is of concern as many students are only exposed to and learn about fitness and health in a PE environment.

Educators and academics have begun to realize that fitness testing is most beneficial to student learning if it is focused towards helping students become motivated to participate in lifetime physical activity and provides students with appropriate knowledge such that they are able to develop their own personal fitness (Deng Keating, & Silverman, 2004). Adolescents not only show the greatest declines in physical activity

and PE program enrollment but also develop healthy or unhealthy habits and activity patterns that they carry forward into adulthood (Cooper, 1991). Proper instruction of fitness to students who have removed themselves from competitive sport and athletics may increase enrollment in other lifestyle activities, decreasing the number of sedentary youth (Silverman, Deng Keating, & Phillips, 2008).

2.5.1 Fitness testing in physical education.

Fitness testing in PE is generally divided into two categories based on how the students' test results are referenced; criterion and norm referenced assessments. Norm based fitness tests compare students' scores to a norm, which is generated through multiple test results of individuals the same age (Deng Keating & Silverman, 2004). This style of fitness reference has been utilized in the past as the main source of determining students' health levels. Researchers found that although norm reference scoring was easy to utilize and interpret it did not provide appropriate information regarding the actual health of an individual (Deng Keating, & Silverman, 2004). Criterion-referenced standards compare students' fitness level scores to a pre-defined set of health based criteria (Wiersma & Sherman, 2008). This style of assessment has become increasingly recommended for teacher use as students are able to interpret and understand their personal results rather than receive a grade based on their fitness scores (Deng Keating, & Silverman, 2004). The selection of which referenced based test is appropriate is crucial as it may be the only learning experience students have with fitness and fitness testing.

Health-related fitness testing within PE includes a variety of individual tasks that are meant to assess an individual's fitness and health levels. There are numerous versions of fitness tests with the main differences occurring in the tasks that students are to

complete and how they are to be conducted. Similarities between fitness tests include students being tested in the areas of agility and strength, and endurance. The most common strength and agility tasks within fitness testing are the sit and reach, sit-ups, pull-ups/flexed arm hang, shuttle run, standing broad jump and the handgrip test (Cooper, 1991; Ortega, Artero¹, Ruiz, Vicente-Rodriguez, Bergman, Hagstromer, et al., 2008). These tests assess major muscle group strength by having students complete maximal repetitions until exhaustion and/or time completion and produce maximum effort output. For example, the sit-up task requires students to complete as many sit-ups as possible in 60 seconds. Standing broad jump requires students to jump as far as possible from a standing position. The two most common cardiorespiratory (endurance) assessments of fitness testing are the beep test (20 meter shuttle run) and the 12 minute run (Ortega, et al. 2008). The beep test requires students to continuously run until they are physically incapable or unable to meet the requirements whereas students completing the 12 minute run must continuously run until the 12 minutes are completed. Both tests are based on the distance travelled by the student while completing the task (Cooper, 1991).

2.5.2 Instructing and assessing fitness in physical education.

Fitness testing in PE often occurs at three separate time points within a single semester as weeklong units of instruction. Students are typically evaluated based on their fitness scores for each task and their score improvement from one testing date to the next (Wiersma & Sherman, 2008). Researchers have determined that this style of assessment is inappropriate as it does not encourage students to increase their physical activity levels nor does it enhance their knowledge of fitness and health. A study conducted by Wiersma and Sherman (2008) reported that a majority of students did not know what the purpose

of fitness testing was or why it was important, found it uncomfortable, and exercised creative ways to avoid fitness testing or to cheat at the tasks. This study was consistent with past research indicating that fitness testing is not meeting educational objectives and is not being taken seriously by educators or students (Deng Keating, & Silverman, 2004; Silverman et al., 2008).

Although Health and Physical Education Curriculums promote physical fitness as an important focus in student learning, in many cases fitness testing constitutes the majority of students' fitness education (Silverman et al., 2008). For example, Martin and Kulinna (2005) found that teachers in their study devoted only four percent of their class time to developing and promoting student fitness. It is important for teachers to prepare and educate their students prior to fitness testing so that they understand the importance of testing and what their test results mean in regards to their health level (Wiersma & Sherman, 2008). Pre-test practice and proper technique development throughout the entire semester may also increase students' competence levels as the fitness focus becomes skill mastery and improvement. Wiersma and Sherman (2008) further discuss the importance of teaching students the physical and psychological benefits of becoming physically fit.

A variety of assessment strategies that enhance student motivation and effort towards the task are available for teachers to utilize when evaluating their students' fitness levels. For example, Deng Keating and Silverman (2004) state that implementing PE fitness testing programs that focus on student understanding of fitness concepts and the development of personalized physical activity programs can provide students with authentic learning material that they can engage with and transfer to real life. The

integration of fitness-related concepts into other PE units can also enhance student learning and development of fitness skills. Formative assessments, such as students recording their own scores and performing self-evaluations after each testing period to create specific and attainable goals for the next testing period, can help motivate students to achieve goals in a positive manner regardless of ability level (Wiersma & Sherman, 2008). Silverman et al. (2008) add that students who are prepared for fitness testing through understanding what it is, how it is beneficial to their health and well-being and knowing that their outcome goals is making personal progress, are more likely to be motivated towards completing their fitness tasks seriously.

2.5.3 Emotions in physical education fitness testing.

Research examining student affect and PE fitness testing discusses two common overarching themes; students' positive feelings (i.e., enjoyment, motivation) towards fitness testing and students' negative emotions (i.e., anxiety, embarrassment) towards fitness. Major influential factors, for both students' positive and negative affect towards PE fitness testing are the teacher, his/her approach to teaching fitness, the way testing is conducted and student knowledge of health and fitness concepts (Silverman et al., 2008; Wiersma & Sherman, 2008; Pfaeffli & Gibbons 2010). Wiersma and Sherman (2008) state that fitness testing is a more positive and enjoyable experience for students when teachers integrate fitness into the PE curriculum producing a supportive environment that regularly promotes developmentally appropriate physical activity and fitness participation. The utilization of strategies such as providing positive feedback on skill technique and improvement, setting personal fitness goals, pre-test practicing and rotating students through test stations in small groups have been documented to decrease students'

levels of embarrassment and anxiety as well as increase their enjoyment, effort and motivation (Silverman et al., 2008; Wiersma & Sherman, 2008). Silverman et al. (2008) further discuss the importance of developing student knowledge, competence and enjoyment stating that when students' feel there are experiencing success and perceive themselves to be skilled in the task they will continue to engage themselves within the activity currently and in the future. This is of importance as enjoyment is a critical factor in student engagement within activities indicating that students who enjoy fitness in PE may be more likely to participate in different physical activities within the community on a regular basis.

Researchers (e.g., Silverman et al. (2008) have also found that students often view fitness testing negatively as they dislike the competitive nature, find it boring and are unprepared to complete the test. Their findings support that of past research stating that students' lack of health and fitness related knowledge has a negative impact on their motivation, emotions and performance which carries forward into future participation (Deng Keating, and Silverman 2004; Martin, & Kulinna, 2005). Silverman et al. (2008) and Wiersma and Sherman (2008) discuss two primary sources that have a negative impact on student emotions towards fitness testing. The first major influence on students' effort and motivation towards testing is the public nature of the tasks. Completing the tasks in a public setting alongside other students increases the chances of peer observation and comparison as well as public knowledge of individual scores. This may result in some students' experiencing higher levels of physical and emotional discomfort and embarrassment. The second finding they discussed was how the fitness tests, themselves, may have caused negative affective reactions in students. Tests to fatigue

(i.e., beep test), body measurements (i.e., weight) and strength tests (i.e., push-ups) can cause students' physical and emotional pain leaving them with negative memories and avoidance behaviors towards fitness testing.

Chapter 3 - Method

This study examined grade nine girls' emotions across individual curriculum units and between two instructional units in PE (either a soccer or fitness testing unit). It also studied the interactions between selected state emotions and the relations between these emotions and student PE grade. A mixed-method research approach comprised of quantitative and qualitative methods of measurement was implemented using questionnaires consisting of both scaled (Likert-style) statements as well as open-ended questions. Research was conducted within four classes taught by three PE teachers at two different high schools in a regional Catholic District School Board (CDSB) of southwestern Ontario. The following chapter outlines the sequential steps undertaken by the researcher to conduct this study and describes her personal influence on the study and the principal characters within the study.

3.1 Procedure

This study was conducted in three separate phases. Phase one (pre-study) consisted of gaining ethical approvals from Brock University and the CDSB, networking with the CDSB to find willing teachers to complete the study and conducting a pilot study to provide evidence of validity to the study's measures. The second phase (data collection) included gathering data from students through questionnaires and informally interviewing each teacher. Phase three (data analysis) consisted of analyzing both the quantitative and qualitative information gathered. The two separate methods of analysis were utilized to provide support and validity for the others' findings.

3.2 Phase One: Pre-Study.

3.2.1 Ethical Approvals.

This study was reviewed and received ethical clearance from Brock University's Ethical Review Committee (File #: 09-239), the CDSB and each participating school's principal, PE teachers, students and their guardians. Once the research project was granted consent, access into PE classrooms was obtained through contacting the CDSB's Physical Education Consultant (Appendix A). Prospective schools, that met the study's criteria, were contacted and correspondence with their principals and PE department heads included a Letter of Invitation outlining the basic foundation of this research project (Appendix B). Access into the classrooms was gained from the principals and PE teachers and a brief presentation was given to each class outlining the researcher's interests, the participants' role, and the purpose, procedures, voluntary nature and researcher contact information of this study. Each interested student was provided with a letter outlining the basic information of the study (Appendix C) and an Informed Consent Form (Appendix D) for her parent and/or guardian to review and complete accordingly. Students who participated in the study provided the researcher with a signed consent form that included their own and their parents and/or guardians signatures.

3.2.2 Pilot Study.

Prior to the initiation of this research project, a pilot study was conducted in a girls' grade nine PE class within a secondary school in the CDSB. The purpose of this pilot study was to ensure that all measures within the questionnaire were suitable for a PE setting and the developmental level of the participants. Letters of invitation and informed consent explaining the purpose, procedures, voluntary nature and contact information of

this study were provided to all interested students (Appendix E & F). Only students who returned their signed consent forms were allowed to participate in the study.

The pilot study sample consisted of eight grade nine female students, who shared similar demographical characteristics with the main study's population. Participating girls completed the questionnaire in a secluded, quiet area and were given as much time as they needed. The girls were asked to pay special attention to and clearly mark any questions that confused them, words they were unable to read, and/or items they did not understand. The researcher circulated the room and answered any individual questions that arose. The session concluded with a five minute researcher led small group discussion focused around the girls' feedback regarding their (mis)understanding of the questions and their thoughts as to what changes they recommended.

The researcher then evaluated and assessed the information gathered focusing specifically on the items students marked as 'difficult' or 'confusing'. Modifications were made by the researcher throughout the original questionnaire in an attempt to provide the actual study participants with a document that was easy to read, understand and complete independently. Major changes included rewording of entire questions, replacing words with less challenging synonyms and altering the wording to include the specific unit title (i.e., 'in this games unit' was adapted to 'in this soccer unit') (Appendix G). The findings of the pilot study illustrated that with slight alterations, the questionnaire was developmentally appropriate for the participants' level of understanding as well as relevant within a PE environment.

3.3 Phase Two: Data Collection.

3.3.1 Participants.

3.3.1a *Students.*

The sample for this study included four female grade nine single-sex PE classes (regular enrolment for a high school PE class is between 20-25 students) consisting of 67 female students between the ages of 14 and 15. Of these, 34 were in the soccer unit and 33 participated in the fitness unit. The researcher briefly observed each class for approximately five minutes on the initial day of this study. She was unable to observe each entire lesson as the classes selected occurred during the same time of day and were located at opposite ends of the city. These PE classes contained students who expressed a wide variety of abilities, emotions, attitudes and competence. The researcher's assumptions regarding student variation of skill were inferred from her communication with the classroom teacher, her own personal biases and experiences, as well as her brief observations of the students.

3.3.1b *Teachers.*

The three participating PE teachers were of the same gender (female), possessed similar pedagogical styles, presented their unit content in a comparable manner and appeared to be equally knowledgeable and experienced with grade nine girls PE. The researcher collected this information in semi-structured interviews, specifically asking each teacher to describe her experiences and thoughts (see Appendix H for interview questions). Each educator's teaching experience, pedagogical style and philosophy on teaching is described in detail below. The teacher's names used in this study are pseudonyms, to protect their real identities.

Marisa.

Marisa, the instructor of both soccer classes, has been teaching for 25 years and has 20 years of experience with grade nine girls' PE. She described her approach to teaching as "inviting", attempting to provide a "fearless" environment for her students where they are comfortable to explore and "feel successes". She explained that grade nine is the first year where girls' experience a single sex PE class, so she views it as a rebuilding year to help the girls, "get over their fears". Her main pedagogical approaches include; "enjoyment", no pressure to perform perfectly, "high energy", her own enthusiasm and high paced tasks, and "trying new things" a variety of activities. She also utilizes external resources such as music to help develop a high energy, enjoyable and comfortable environment. When asked about her philosophy of teaching, Marisa stated it was very important to provide students with an enjoyable and knowledgeable PE experience so they would, "want to be active for life". To achieve this, she creates a comfortable and effort based lessons that provide students with a variety of activities and daily fitness practice. Her main objective is for, "students to enjoy their first high school PE experience".

Jessica.

Jessica, instructor of one fitness testing unit, has been a teacher for 10 years and has taught grade nine girls her entire career. Her pedagogical approach includes; a "high structure" environment with a daily routine, where students know what they are doing and when. She also promotes an "open door", "friendly" and "easy going" environment so that her students feel comfortable in the class, are able to approach her and enjoy their PE experience. Her philosophy towards teaching is that; "There is a need to bridge the

gap between what we know as teachers and what students don't know so that the students can learn to become responsible, knowledgeable 'sport' citizens". Jessica emphasizes that she develops her lessons such that they provide students with a learning and content based environment that will help them to be continuously engaged within "sport for life".

Patti.

Patti, fitness testing unit instructor, has had nine years of experience with grade nine girls PE as well as teaching in general. When asked about her pedagogical style she stated that her lessons are based around "consistency" and "routine". This is key, as it allows her students to know what is expected of them and how to behave accordingly. She also emphasized the importance of providing her students with a positive, comfortable learning environment as most of the girls come into her class with, "negative associations towards PE", as a majority of them have not experienced PE in a single sex "organized" setting. Another main pedagogical approach is that her lessons are "student led", meaning that her students are at the center of learning; they are involved in their own learning and she engages them within the lesson. Patti's philosophy on teaching is to, "foster appreciation for PE and sport to her students." She described this as providing her students with the knowledge and understanding of the importance of staying active and healthy. As outlined above the three PE teachers were confident in their ability and experience with the specific unit being covered during the duration of the study such that the quality of instruction remained consistent across the two units.

3.3.2 Ethical Considerations.

This research did not harm the participants in any way and the benefits of this study outweighed any foreseeable risks. Key ethical issues and guidelines were utilized in

this research to help ensure the safety and well-being of the participants. These included ethical approval, informed consent, right of refusal and confidentiality. To participate in this study, parental and/or guardian agreement was necessary as the potential participants were protected as minors. The girls were also required to sign the consent form stating that they understood the study, what was being asked of them and that they were willingly participating. Parents and participants had access to a copy of all the measures utilized within this study upon request.

The participants were informed before the study began and regularly throughout the duration of the research of their ability and right to refuse participation within this study as well as remove oneself from the study at any point. Girls who did not wish to participate within this study were not questioned and did not receive any negative consequence. Non-participants were not pressured into participating nor did they receive any dissimilar treatment. Girls were informed that if they wished to withdraw their information and data at any point it would be disposed of immediately and they would no longer take part in the research. The girls who did not participate received alternative tasks, from their PE teacher, to complete quietly for the duration of the questionnaires.

All participants' personal data was kept strictly confidential and anonymous such that data was not associated with specific individuals. The girls' responses to the items on the questionnaires did not influence their grade in PE nor did their PE teacher have access to any information and data collected. Only the researcher had contact with the data, which was stored in a locked office.

3.3.3 Setting: High School Girls PE.

A high school setting was selected for this study as grade nine PE is a required course for all students. Data was collected over the period of a single unit within the first semester of the school year. The typical unit length for a high school girls PE class within the CDSB is approximately one week (five to seven days). To control for variance between the different schools, classes and instructional units, the researcher selected classes that were of similar demographic nature, were conducted during the same time period (i.e., first class of the day) and had similar structure and assessment of each unit. Information describing the demographics of each class, the breakdown of daily routines and the structure of the unit was collected from participating teachers in a semi-structured interview (Appendix H).

3.3.3a Classroom environment and instructional unit content.

Marisa's soccer units.

Marisa's first grade nine soccer class was during the first class of the day. It consisted of 23 girls who shared the double gymnasium with a grade nine boys PE class. Her second class of soccer contained 16 girls and occurred during the fifth class of the day. Her lesson routine, for both classes, began with a ten minute aerobic warm up, completed together by both the boys' and girls' classes. Students were to remain aerobically active for the full warm up and had a variety of activities to choose from such as basketball, skipping, and power walking. A group stretch was then conducted following a specific routine. To end the stretch students must complete a predetermined number of push ups and sit ups set out by their teachers (the number of each exercise increased throughout the semester). Alternative tasks and techniques were provided to

students so that all ability levels could be successful and included. The two classes were then divided and completed their lessons in separate areas. Specifically for the soccer unit, Marisa developed a lesson plan based around the progressive template of skill game, skill development, modified game (skill application) and debrief/review of the skills and concepts learned. For example, on day one of the unit the lesson began with developing the skills of dribbling and passing, students completed a fitness relay and variety of progressive activities to further enhance these skills. A mini modified game of soccer was the final stage of the lesson where students applied their learned skills (example of a full soccer lesson see Appendix I). The evaluation criteria utilized for the soccer unit was based in two areas of the Ontario High School Curriculum: ‘Knowledge and Understanding’ (a unit test based on the content learned throughout the unit) and ‘Application’ (a daily application mark out of four based on preparation, effort, application of knowledge). Marisa described the assessment of students as being more heavily weighted towards their effort as opposed to their ability.

Jessica’s fitness unit.

Jessica’s fitness class started at one pm and lasted until two twenty pm. Her class consisted of 14 female students. A grade nine boys PE class split the double gym with the girls; however they did not engage in the same warm up or activities. Her class routine began with a cardiovascular and muscular warm up which included but was not limited to squats, jumping jacks, and skipping. The warm up provided students with a variety of activities that increased their heart rate and helped develop their fitness skills. Jessica’s fitness unit was constructed such that each lesson consisted of a warm up and the completion of one or two fitness tasks by each student. For example, on day two of the

unit, after their warm up, the entire class completed the ‘long jump’ and ‘flexibility’ tests. Jessica accomplished this through calling four names from the class list and having those girls complete the task as many times as they could in one minute (for full description of the tasks and breakdown of the unit see Appendix J). For all fitness tasks Jessica gives each girl a single try to complete the test; however they are allowed to re-try the activity. Once the first four girls had finished their testing on that activity, the next four names were called until all students completed that task. The girls would then complete the next fitness task in the same manner. Jessica’s assessment for this fitness unit is based on the improvement of students’ scores from the first two testing periods (September and November) to the third testing date in January. Students’ scores were based against a standardized score chart to log their progress. The third fitness unit held a larger weight towards the students’ overall PE mark compared to the first two.

Patti’s fitness unit.

Patti also instructed a fitness unit to her class of 21 girls, who had PE from 10:55 am to 12:05 pm and shared the gym with a grade nine boys PE class. To begin each class, Patti led her students through a pre-planned warm up routine that alternates between structured dancing and dynamic stretching. The warm up was included within the lesson to prepare students physically for the upcoming activities. The second phase of the lesson focused on the specific unit content that was currently being learned. Patti divided the fitness unit lessons into two main parts, where students completed a warm up and then two or three fitness tasks in one period. For example, on day one of the unit students engaged in a dance warm up and then the ‘sit up’, ‘push up’ and ‘long jump’ tasks (for full description of the tasks and breakdown of the unit see Appendix K). The fourth day

of the unit was utilized as a ‘catch up day’, where individuals who were absent during the week were able to finish any missed testing and all other students played structured low-organizational games set out by Patti. Evaluation for this fitness unit was a very small percentage (3.4%) of the girls’ overall PE mark, with the other two fitness testing units weighing around the same percentage.

A standardized score chart was utilized as a foundation for the testing scores on each fitness task. Within the chart each task was divided into performance level sections which had numerical values from 1-5 (i.e., excellent – 5 and needs improvement -1). Every task level section contained a range of scores; for example, to achieve an ‘excellent’ standing, a score of 5, in the ‘sit up’ test individuals had to complete 54 or more sit ups in one minute. Task level scores were utilized at the end of the unit when Patti added each student’s points together producing her overall fitness rating. The final rating informed students of their current fitness level (i.e., needs to improve current level of fitness; for the full fitness testing score chart see Appendix L). Patti explained that this method provided students with a broad view of their current fitness level as opposed to their fitness level of a specific skill.

3.3.4 Measures.

For this study a total of three assessment points occurred over the course of a week within a single unit of instruction. Each assessment point included a single questionnaire comprising five separate scales that assessed students’ specific situational/state emotions (enjoyment, social physique anxiety, state anxiety and state shame), and two other scale items that were not related to this study’s purpose. Participants completed all three questionnaires within their regularly scheduled PE class

under their teacher's supervision. The teacher allotted 10 to 12 minutes at the end of her PE class to have the girls complete the questionnaire. A scripted protocol, that introduced the study and its measures, was created by the researcher and given to the teachers to recite for their participants prior to the administration of the questionnaires on each assessment point (Appendix M). The script was used to ensure consistency across all four groups of participants and to reduce the teacher's effect on the students.

Assessment point one was conducted on the first day of the unit and gathered general demographic information, Likert scale data pertaining to self-efficacy, state anxiety, social physique anxiety, shame and enjoyment as well as an open ended question (Appendix N). Assessment point two was completed on the fourth day of the unit and consisted of the students completing the same questionnaire distributed on assessment point one except there was no demographic information (Appendix O). Assessment point three was completed on day five of the unit and included an additional questionnaire measuring 7 items that were not used for the purpose of this study (Appendix P).

Following assessment point three, short structured interviews were conducted by the researcher with each individual teacher to discuss her teaching experience, philosophy and pedagogy style. The interview also focused on the teacher's explanation of the classroom environment and the breakdown of each specific unit. The researcher had a predetermined set of questions she utilized to structure and focus the interview. These questions were given to the teachers at the beginning of the study and included statements such as "How long have you been a grade nine girls PE teacher?" and "What is your philosophy of teaching for this age and gender group?" The full interview guide can be found in Appendix H. This information was collected to ensure the four classes and

educators shared similarities that would help the researcher remove/discard any extraneous variables that may have had an effect on the participants. For example, if all three teachers shared similar pedagogy styles regardless of the unit they are instructing, then the researcher would be able to discard pedagogy as an extraneous factor that may be influencing student emotions.

3.3.4a *Demographics.*

The Demographic Questionnaire (DQ) asked students to report certain individual characteristics including gender, age, ethnic background and language. This survey also requested student ID numbers (for identification purposes), past academic averages in PE and questions comparing PE to other courses. The content of this questionnaire was solely quantitative, requiring only basic foundational information from each student. The information collected from this survey served the purpose of providing the researcher with an identification number for each student for the purpose of tracking student responses without using their name (maintaining confidentiality). The researcher also gained information regarding the ‘identity’ of the participants (characteristics of the group). This measure took approximately one minute to complete and the items have been used previously in other research projects (e.g., Lodewyk et al., 2009b). Slight modifications were made to the previously utilized DQ through the removal of variables considered irrelevant for this study.

3.3.4b *Enjoyment.*

To assess state enjoyment a modified version of the Physical Activity Enjoyment Scale (PACES) was utilized. PACES, developed by Kendzierski and De Carlo (1991), has been used to measure physical activity enjoyment for college-aged students (Crocker

et al., 1995). The Shortened-Physical Activity Enjoyment Scale (S-PACES) constructed by Motl et al. (2001) was first developed to assess adolescent females' enjoyment of physical education. These and other uses of the measure have indicated adequate factorial and predictive validity, alpha coefficients ranging from .77 to .96, and invariance between genders and across time (Cai, 1998; Motl et al., 2001; Dishman et al. 2005; Paxton, Nigg, Motl, Yamashita, Chung, & Battista et al 2007; Carraro et al., 2008). From these results researchers suggest that S-PACES is an appropriate and useful tool for the assessment of an individual's enjoyment in physical education (Crocker et al., 1995; Motl et al., 2001).

S-PACES consists of 16 statements (nine positive items and seven negative items) that are scored on a 5-point Likert scale ranging from 1 (disagree strongly) to 5 (agree strongly). For use in this study, the positively worded statements were excluded as to increase the scales factorial validity and reduce participant burden as described by Motl et al. (2001). Students rated their enjoyment only based on the seven negatively worded items. The stem for each negative item is "Currently, in this Fitness unit ..." and a sample item is "It's no fun at all."

3.3.4c *State anxiety.*

To assess state anxiety a modified short form of the Spielberger State-Trait Anxiety Inventory (STAI) was utilized. The STAI, developed by Spielberger, Gorsuch, Lushene, Vagg and Jacobs (1983), measures an individual's transient and enduring levels of anxiety. Previous studies have indicated STAI has adequate internal consistency and convergent validity (Himmelfarb & Murrell, 1983; Stanley, Novy, Bourland, Beck & Averill, 2001; Kabacoff, Segal, Hersen & Hasselt, 1997) as well as support its use with

young adults (Spielberger et al., 1983). The STAI is a well-known 40-item self-completion instrument consisting of two 20-item questionnaires (20 trait anxiety items and 20 state anxiety items).

Marteau and Bekker (1992) indicated that the major weakness of the STAI is its length and repetitive items. The Short Form six-item State-Trait Anxiety Inventory (STAI-6) (Marteau & Bekker 1992) was developed to reduce the original questionnaire's duration and improve its validity. The STAI-6 produced acceptable reliability and validity measures, mean scores similar to those obtained using original STAI scale and adequate correlation coefficients of greater than .90 (Kvaal, Ulstein, Hilde Nordhus, & Engedal, 2005). Students rated six state anxiety items on a 4-point Likert scale ranging from 1 (not at all) to 4 (very much). Sample items included "I feel upset" and "I am relaxed."

3.3.4d *Social physique anxiety.*

State social physique anxiety was assessed through The Situational Social Physique Anxiety Scale (SSPA-S), a revised version of the Social Physique Anxiety Scale (SPAS). The SPAS a 12-item self-report scale was designed by Hart et al. (1989) to measure individuals general anxiety regarding how their physique is observed or evaluated by others (Eklund, & Crawford, 1994). Hart et al. (1989) indicated SPAS correlated appropriately with general concerns regarding others' evaluations, public self-consciousness and with feelings about one's body. Their research concluded that the Cronbach's alpha coefficient was .90 and high internal and test-retest reliability was .82, while Eklund and Crawford (1994) indicated that it possessed construct validity, internal consistency (alpha .90), and minimal social desirability bias.

The SSPA-S is a modified 9-item version of the SPAS designed by Martin, Rejeski, Leary, McAuley and Bane (1997) to measure an individual's situational rather than dispositional physique anxiety. Kruisselbrink et al. (2004) indicated internal consistency of SSPA-S in single sexed and mixed sex scenarios (Cronbach's alpha all-female = .88, mixed-sex = .88, all-male = .90). Students rated the degree to which each statement is characteristic of their state social physique anxiety on a 5 point Likert ranging from 1 (disagree strongly) to 5 (agree strongly). A sample item includes "When it comes to displaying my physique/figure in this Fitness Unit of PE class, I feel shy."

3.3.4e Shame.

The shame subscale of the State Shame and Guilt Scale (SSGS) was utilized to measure students' state shame. The State Shame and Guilt Scale (SSGS) (Marschall, Saftner & Tangney, 1994) is a self-reporting questionnaire consisting of 15 state items, 5 items for each of the three subscales (shame, guilt and pride). The SSGS is designed to assess and distinguish between the respondent's feelings of shame (the belief that one is bad), guilt (the belief one has done bad things), and pride (the belief one is of value in comparison to others, or to a standard) (Marschall et al., 1994). Previous studies have indicated high reliability through Cronbach's alpha values of .87, .87, and .85 (Stoeber, Harris & Moon, 2007) and adequate inter-item reliabilities at .89, .82, and .87 respectively (Tangney & Dearing, 2002).

The Shame Subscale SSGS includes 5 state shame items which students rated on a 5-point Likert scale ranging from 1 (disagree strongly) to 5 (agree strongly). Instructions highlighted the importance of answering the scale based on how the

individual feels currently in the moment, as the question states “Currently, in this Fitness unit ...” A sample item is “I feel humiliated, disgraced”.

3.3.4f *Open-ended question.*

A single open-ended question was included at the end of each questionnaire. It was constructed by the researcher and adapted to meet the suggestions made by the participants during the pilot study. This question was utilized to gain a better understanding of the girls’ perspectives regarding factors that influence and or relate to their emotions in their current PE class. The girls were reminded to write things that were affecting them in the current moment. The question stated, “Please explain the main factors in this Fitness unit that are affecting your current feelings (environmental, social, physical etc.).”

3.4 Phase Three: Data Analysis.

3.4.1 Quantitative Analysis.

The Statistical Program for the Social Sciences (SPSS; version 18.0) was used for all the statistical analyses in this study. First, descriptive analysis was performed to test whether the data conforms to the statistical assumptions recommended by Tabachnick and Fidell (2006). Second, the means for all scales was computed, analyzed, and then compared. Third, Bivariate Pearson correlations were computed to assess the relationship between the state emotions. Fourth, repeated measures ANOVAS were used to assess the change in levels of emotion over time within each unit. Fifth, one-way ANOVAS were also used to determine statistical differences in each emotion between the fitness and soccer units through comparing corresponding assessment points. Sixth, multiple regression analysis was used to test whether emotions predict PE grade. Group sizes were

sufficient for the statistical analyses performed in this study (Moore & McCabe, 1998). Since repeated measures can compound error variance and increase the risk of Type I error (Tabachnick & Fidell, 2006), a p-level of $< .01$ was used to determine statistical significance in the repeated measures analysis and effect sizes for group differences in emotions were also reported.

3.4.2 Qualitative Analysis.

3.4.2a Analysis breakdown: a three tiered approach.

To further understand the essence of female emotions within the PE classes, three of this study's four research questions were the focus of the qualitative analysis. The aim of the qualitative analysis was to examine the following research questions: Do students' emotion levels change over the course of a single unit of instruction? Are students' emotions different when compared across a soccer unit and a fitness testing unit? And what is the relationship between a student's emotion and PE grade? As such, analysis was conducted in three separate sections, with three different foci as each was based on a different research question. This approach was utilized as the essence of each research question, as each required the data to be analyzed in a unique manner.

The researcher followed a hermeneutical phenomenological approach suggested by van Manen (1990) to examine each of the research questions. This process consisted of a reflection on the themes of the nature of female emotions within PE, a description of the experience of female emotions in PE and an interpretation of the meaning of female emotions in PE. For each research question the researcher examined the collected information utilizing a three-tiered approach. Creswell (1998) described this as a layered

approach in which the data is thoroughly analyzed through multiple examinations (levels), with increased delving and interpretation at each new level.

The first level involved a content analysis of each student's response to the single open-ended question. Content analysis is the process of identifying, coding and categorizing primary patterns and themes within the data (Patton, 2002). For each research question the researcher used key words and phrases to code students' responses. Colors were used to code words so that the different sensitizing concept(s) were clearly distinguished. Sensitizing concepts were based on the focus of each research question and were utilized as a starting point to help guide the researcher through the data (van den Hoonard, 1997). These sensitizing concepts helped the researcher classify the data into patterns and themes which were then utilized in level two of analysis.

The second level of analysis consisted of a cross-individual and a cross-unit comparison using the emergent categories found within the first level of examination. The researcher further coded the categorized data, by color, into subcategories based on major patterns found (Patton, 2002). Within the cross-individual analysis the researcher compared each student's response pattern (over time) with that of the rest of the class to uncover commonalities and or discrepancies within the data (research question #2). The researcher utilized the cross unit analysis to evaluate the similar and dissimilar patterns of emotions that emerged from both the soccer and fitness units (research question #3).

The third level consisted of a thematic analysis of the patterns that arose from the data during previous content and cross unit examinations (research question #3). The researcher conducted this level of analysis through a holistic approach as she utilized the information in its smaller parts (level one and two) to help her produce a deeper

understanding of what the girls' responses were indicating on a hidden and profound level. The researcher uncovered main themes within this level and placed them into categories.

The coded categories were reviewed and verified by a fellow graduate student in an attempt to validate the themed categories and subcategories as well as to ensure that the researcher bias was controlled. The student chosen to complete the independent coding was Fred who was from the same university and was of similar academic standing (undergraduate and master's degree in PE). Fred examined a sample of the raw qualitative data, the researcher's initial coding scale and subsequent themed categories. He then coded the sample of data independently. Fred's coding was then matched to the researcher's coding to identify any similarities and/or differences in the analysis. Consistent coding practices were determined as 92.1% of the coding themes matched. Discrepancies in the coding were discussed until both individuals came to a mutual agreement.

Chapter 4 - Results

The purpose of this research was to discover how a sample of female high school PE students' emotions (i.e., enjoyment, state anxiety, shame and social physique anxiety) fluctuated within and between two units of instruction and how these emotions related to their PE grade. Stemming from this aim, four key research objectives were developed. First, scale means and correlations were assessed between state anxiety, enjoyment and social physique anxiety. Second, differences in students' emotional levels were analyzed over time within a single unit of instruction (either soccer or fitness) to determine if significant emotional changes were evident during these PE units. Thirdly, an analysis of the variation in emotion levels between the two units of instruction was conducted to determine if different types of PE units (fitness and soccer) relate to students' levels of emotion. Lastly, the predictive relationship between emotional levels and physical education grade was explored. The mixed method data analysis approach was utilized to provide support and validity to each type of analyses main findings. It also presented a 'holistic' picture of the data through gathering information from different sources (i.e., Likert scale and open ended question).

4.1 Data Screening

Missing data points were revealed through a frequency distribution test on all questionnaire items and were replaced by the mean value of the closest five data points of the same question (Tabachnick & Fidell, 2007). Questionnaire items with a negative valence were re-coded such that they were expressed positively to maintain consistency throughout the measures. Three items from the state anxiety scale, two items from the

social physique anxiety scale and all items on the enjoyment and shame scales required re-coding.

Internal consistency reliability coefficients were computed for all questionnaire scales, revealing that each scale met the acceptable criteria ($>.60$) for Cronbach's alpha scores (Schmitt, 1996) (see Table 1). Scale means were calculated for each corresponding instructional unit, day and emotion as a representation of the individual scale responses (i.e., Soccer class #1's mean state anxiety for on day one was represented as Soccer 1A-Anx = Soccer Day 1 State Anxiety). Skewness and kurtosis were analyzed for all scale means revealing that three of the four emotion scale means were in suitable range of ± 3 (Tabachnick & Fidell, 2007). The enjoyment, state anxiety and social physique anxiety scale means had acceptable skewness (-1.20 to 3.02) and kurtosis ($-.08$ to 2.10) levels. The shame scale had a highly abnormal kurtosis (3.10 to 14.98) and was subsequently removed from further analysis. See Table 1 for the descriptive statistics and internal consistency reliability coefficients (α). The fitness group's mean for PE grade was 86.25% ($SD = 6.80$) whereas the soccer group's mean was 85.41% ($SD = 5.14$).

4.2 Statistical Bivariate Correlations between Emotions

Bivariate Pearson correlations were computed to assess relations between the emotions of enjoyment, state anxiety and social physique anxiety. Correlations were conducted for each respective time of measurement (day) within the specific unit of instruction (see Table 2). State anxiety and social physique anxiety were significantly and positively correlated on day one ($r = .35$, $p = .04$), day two ($r = .45$, $p = .008$), and day three ($r = .56$, $p = .001$) of the soccer unit. A significantly negative correlation between enjoyment and state anxiety was revealed on day two ($r = -.43$, $p = .01$) and day three ($r =$

-.54, $p = .002$) of the soccer unit. Enjoyment also shared a statistically significant negative relationship with social physique anxiety on day three of the soccer unit ($r = -.41$, $p = .02$). During the fitness unit, there was a statistically positive correlation between state anxiety and social physique anxiety on day three ($r = .51$, $p = .003$), whereas enjoyment and state anxiety were significantly and negatively correlated on day one ($r = -.55$, $p = .001$), day two ($r = -.62$, $p < .001$), and day three ($r = -.46$, $p = .01$). A statistically significant negative correlation between enjoyment and social physique anxiety resulted on day one ($r = -.35$, $p = .04$), day two ($r = -.50$, $p < .001$), and day three ($r = -.40$, $p = .03$), of the fitness unit. The positive emotion of enjoyment expressed an inverse relationship with the negative-based emotions of state anxiety and social physique anxiety across all time points. These results support the concurrent validity of these constructs and indicate that when higher levels of positive affect are reported it is more likely that lower levels of negative emotions will be indicated and vice versa. State anxiety and social physique anxiety shared a positive relation throughout all correlations across both units.

4.3 Fluctuation in Emotions over Time within each Unit

4.3.1 Quantitative Analysis.

One-way repeated measures analysis of variance (RM-ANOVA) ($p < .01$) were conducted to compare the variations in reported levels of emotion among adolescent female participants over time within an individual unit of instruction. It is assumed that when conducting a repeated measures test that the relationship between pairs of group conditions is similar, indicating that the differences between each independent group is equal in variance. This is known as the assumption of sphericity and can result in a loss of power when violated. To determine if sphericity was violated, Mauchly's test

assessing the equality of variances of between group differences was used (Field, 2008b). It revealed that three of the scale means items violated the assumption of equal variances, resulting in significant sphericity values. The three values which violated sphericity were: enjoyment in soccer, $\chi^2(2) = 12.2$, $p < .05$; state anxiety in fitness, $\chi^2(2) = 10.4$, $p < .05$; and enjoyment in fitness, $\chi^2(2) = 12.7$, $p < .05$. Each item's degrees of freedom was corrected using Huynh-Feldt estimates of sphericity ($\epsilon = .76$, $\epsilon = .79$, $\epsilon = .75$ respectively) (Field, 2008b).

The RM-ANOVA investigating statistical fluctuations in emotions found no significant differences during soccer [state anxiety, $F(2, 56) = .27$, $p = .76$, $ES = .01$]; enjoyment, $F(.53, 42.78) = .48$, $p = .57$, $ES = .02$]; and, social physique anxiety, $F(2, 56) = .69$, $p = .51$, $ES = .02$] or fitness [state anxiety $F(1.57, 42.49) = 2.71$, $p = .09$, $ES = .09$], enjoyment $F(1.50, 40.58) = .66$, $p = .48$, $ES = .02$) and social physique anxiety $F(2, 54) = .30$, $p = .74$, $ES = .01$]. Significant changes in the three emotions were not evident across any of the three adjacent time points within either the soccer or fitness units (see Table 3).

4.3.2 Qualitative Analysis.

The researcher examined students' written responses with an explorative approach attempting to gain further understanding and develop interpretations of what the girls were feeling over the course of a fitness and soccer unit. Students' responses were analyzed qualitatively using a three-tiered analytic process as described in Chapter 3. Figure 1 outlines the structure of each tier, providing the category and subcategory titles within each layer of analysis. The first level of analysis consisted of two parts: first the researcher coded students' emotional responses based on the sensitizing term *emotional impact* and second placed these responses into themed categories (see Figure 1). This

sensitizing concept was selected to help examine whether each student's state emotions were altered over the three different time points within the unit. The themed categories that emerged from both data sets consisted of fluctuating emotions, consistent emotions, and conflicting emotions.

4.3.2a Level one: content analysis.

Fluctuating emotions.

The category of, 'fluctuating emotions', included students' responses that expressed variations in their positive and/or negative emotions over the three time points of each unit. For example, a student who responded with positive affect on day one, neutral affect on day two and negative affect on day three, demonstrated fluctuation within her state feelings. Fluctuations occurred over a variety of emotional states and were influenced by various factors. Influential factors in the fitness unit included: 'friends', 'comfort', 'observations', 'fun', 'challenging' and 'improvement'. For example, one girl stated on day one; "I feel like sometimes I could do better at some things and I feel like I have to do as good as the other girls"; and day two, "the environment is comfortable and we all get along well." Similarly, a soccer student reports her feelings from day one; "If my friends are with me then I'm alright. I feel good when I play soccer just because I love the sport"; and day two, "The certain drills we do are not what I am best at so it brings down my confidence." The primary influential factors listed within soccer were: 'friends', 'play', 'confidence', 'comfort', 'boring' and 'enjoyment'.

Consistent emotions.

Students' comments regarding their current emotional state that highlighted consistency over the three time measurements were placed into the category of

‘consistent emotions’. Two types of emotional experiences emerged from both units of instruction: positive emotional experiences and negative emotional experiences. A *positive affective experience* at all three time points consisted of student positive feeling states within the unit. The primary positive influential factors in fitness concerned: ‘comfortable’, ‘fun’, ‘challenge’, ‘confidence’, ‘effort’ and ‘environment’. For example, one fitness student described her continual positive feelings as follows. Day one: “I feel normal in this PE class, I’m not uncomfortable or nervous with the people around me and I’m comfortable with my body”; day two: “I feel comfortable with everything”; and day three: “I feel calm.” Within the soccer unit a student reported similar feelings, as on day one she stated, “When I play soccer I feel very energized and happy. I feel healthy and it allows me to interact with my classmates in a positive way.” On day two she wrote, “When I play soccer it allows me to have a good time and interact with my peers” and on day three she reported; “I feel energized and happy while playing soccer. I also feel excited because you get to get closer with friends.” The main influential factors reported for soccer were: ‘energized’, ‘happy’, ‘healthy’, ‘included’, ‘enjoyment’, ‘confidence’ and ‘friends’.

Continuous *negative affective experiences* expressed by students in the fitness unit consisted of responses that included influential themes of: ‘judgment’, ‘discomfort’, ‘bad’, ‘body shape and weight’, ‘communication’, ‘boys’ and ‘social evaluation’. Students’ reports of these negative feelings regularly coincided with perceived judgment from others based on physique and physical abilities. For example, one girl wrote on day one: “My physical shape of my body is somewhat up to par. I sometimes do not enjoy class because people aren’t always nice (people talk about people) I don’t like the

uniform: I feel out of shape.” On day two: “People talk about people - I don’t like the fitness uniform.” On day three: “People talk about people - I don’t like fitness testing I’m not the best at it.” Student responses within the soccer unit expressed similar anxieties based on negative social evaluation. Primary influential factors reported by students included: ‘scared’, ‘nervous’, ‘dislike’, ‘boys’ and ‘comments’. One particular student stated on day two: “I’m scared because every guy is staring at me and I get nervous” and on day three: “Being pushed, bumped, comments being made to me”.

Conflicting emotions.

The category of ‘conflicting emotions’ reflected students’ responses that expressed both positive and negative emotional comments on the same day. Students from both units described similar influential factors within this category highlighting themes such as: ‘other statements’, ‘self statements’, ‘physique’ ‘athletic ability’ and ‘achievement’. For example, a student within the fitness unit stated on day one: “I like this class, just the fact of judging my figure is bothering me – other than that nothing is bothering me.” Similarly on day two she wrote, “Not reaching my goals - otherwise I’m fine.” The students’ responses from the soccer unit were expressed at a higher frequency within this category, focusing primarily on aspects of the lesson content. For day one of the unit, a girl reported: “When I play I feel happy; but sometimes like I am not good enough; therefore I tend to worry and be a little shy on how well I play.” Again on day two, she expressed varying thoughts stating: “I feel bothered a little by thoughts of others, but I feel comfortable playing soccer and with my body.” All the girls’ responses pertaining to the categories of fluctuating emotions, consistent emotions and conflicting emotions within the fitness and soccer units can be found in coded tables in Appendix Q.

4.3.2b Level two: a cross-case analysis.

Level two of analysis, consisting of a cross-case comparison between each student's responses from day one, day two and day three, was used to determine patterns of emotional fluctuation within soccer and fitness. The data was analyzed by comparing the categorized tables for both the fitness and soccer units, as determined in level one of analysis, and examining the information for common or dissimilar themes/patterns. Specific subcategories were found within the fluctuating emotions and conflicting emotions categories from each unit of instruction. The resultant fitness and soccer subcategories included positive to negative affect, negative to positive affect, negative/positive affect to neutral feelings (fluctuating emotions) as well as enjoyment and feelings of incompetence (conflicting emotions). Although both soccer and fitness had similar patterns of emotional change (i.e., same category titles from level one and two of analysis) the factors that influenced the fluctuations in students' emotion within each unit varied (see Tables 4.1 to 4.3, 5.1 to 5.3 and 6). Upon further thematic analysis no subsequent subcategories were uncovered, resulting in the researcher concluding her analysis at the second level.

Positive to negative affect within fitness.

Positive to negative affect pertained to student emotional responses that were positive at the start of the unit and were negative at the end of the unit. Emotional responses from different days did not necessarily relate to one another; however, a significant shift in the girls' affect was clearly visible. Positive feelings were stated in relation to comfort in the environment and with class mates, whereas negative affect was mentioned in terms of task performance and success. For example, one girl reported her

positive interactions on day one, “Everyone seems to be friends with one another and it is easier to be comfortable with one another”; and then reported negative feelings towards her achievement stating, “I don’t want to get a bad mark.” Student emotions were influenced by concepts such as ‘friendship’, ‘achievement’, ‘comfort’ and ‘effort’. Table 4.1 summarizes all the factors that influenced student affective responses from positive to negative.

Negative to positive affect within fitness.

Negative to positive affect are those student responses which expressed a change in affect from negative to positive throughout the duration of the unit. The variations occurring in students’ emotions presented a pattern in which negative emotions were the result of perceived judgments and evaluations from others and positive emotions were the product of self-achievements and effort. Major influential factors that contributed to these fluctuations included: ‘environment’, ‘comparison’, ‘skill level’ and ‘observation’. Specifically, one girl’s emotion began negative on day one as she stated, “I feel uncomfortable when other people come in and watch.” Her written response on day three expressed a positive feeling state, “I feel good we all get along and the environment is comfortable.” Table 4.2 summarizes all factors that influenced students’ feeling states from negative to positive.

Negative and/or positive affect to neutral feelings within fitness.

Negative and/or positive affect to neutral feelings are those which initially begin as a student’s positive and/or negative emotional experience and are altered towards a neutral emotional state. These variations demonstrate that students may experience an emotional occurrence within a single class and yet, later in the same unit, have no major

feelings towards their current engagement within the lesson. For example, one girl described her feelings on day one as negative stating, “I am nervous when other guys look through the window to watch us.” Her responses on day two and day three indicated neutral feelings as she wrote, “Nothing (is affecting my current state).” The majority of negative and/or positive affect to neutral feelings were based on others’ observational presence and positive feelings towards fitness testing. The main influential factor that affected negative feeling states was, ‘older male observations’. The primary factors that influenced positive feeling states were: ‘fun’, ‘challenge’ and ‘like for fitness testing’. Table 4.3 summarizes all factors that influenced students’ affect from negative and/or positive to neutral.

Positive to negative affect within soccer.

Positive to negative affect are the student responses which originated with a positive emotional experience and concluded with a negative emotional state towards the end of the soccer unit. These alterations from positive to negative feelings follow a slight contradictory pattern such that the original factor that inspired positive emotion within the student was also the initiator of the negative feeling state. For example, on day one a girl reported feelings of trust from her classmates based on her skill level stating, “As I play I get better than what I was before and people now trust me with the ball.” However, on day two she reports feeling negatively judged by the same individuals; “When I play soccer I feel that people judge me because I am not good.” The majority of these fluctuations were influenced through such themes as ‘friends’, ‘ability’, ‘comfort’ and ‘observations’. Table 5.1 summarizes all the factors that influenced students’ emotional fluctuation from positive to negative.

Negative to positive affect within soccer.

Negative to positive affect pertained to students' responses that indicated that their emotional state was impacted such that their original negative feelings towards a factor within the soccer unit were altered over the course of the week to become positive in nature. All negative to positive emotions were self-based, indicating that these emotions were both inspired and controlled by the student. Specifically, one girl explained her feelings regarding her athletic ability as she reported on day one: "I feel a bit better because I got some exercise but I also feel embarrassed because I'm not athletic." On day two she discusses how with increased effort her skills and enjoyment improve. She wrote, "I feel better than before because I feel like I have put more effort into it now. I'm enjoying it." Negative emotions were influenced by such themes as: 'athletic ability' and 'stress'. Whereas positive emotions were influenced factors such as: 'effort' and 'friends'. Table 5.2 summarizes all the factors that influenced student feeling states from negative to positive.

Negative and/or positive affect to neutral feelings within soccer.

Negative and/or positive affect to neutral feelings arose from student reports of initial positive or negative emotional experiences within the soccer unit that were altered into neutral emotion expressions throughout the course of the week. A majority of these students who reported having an emotional experience on the first day of the unit, indicated little to no affective episodes (either positive or negative) in the following days; rather they reported neutral feelings such as 'fine'. For example, one girl reported on day one: "One main factor of this unit that is affecting me is that I sometimes feel emotionally stressed out." She then responded on day two stating, "The main factors in this soccer

unit are currently not affecting me socially or in any other way”; and on day three she wrote, “There are no main factors in this soccer unit that are affecting my feelings.” Prominent positive influential concepts that altered students’ emotional state include items such as: ‘friends’ and ‘environment’. Negative influential factors included: ‘boring’, ‘skill level/ability’ and observations. Table 5.3 summarizes all factors that influenced students’ negative and/or positive affect to become neutral.

Enjoyment and feelings of incompetence within soccer and fitness.

Enjoyment and feelings of incompetence are themes that arose from students expressing both positive inclinations towards the unit of instruction and the activities they were engaged in, as well as their negative feelings towards their own perceptions of their ability compared against others and perceived observation and evaluation of their skill from others. *Enjoyment* highlighted students’ feelings of fun, happiness and pleasure derived from their engagement within the unit’s tasks and activities as well as their interaction with friends and classmates. This is illustrated in one girl’s response during her soccer unit. On day one she wrote, “I feel very included and safe because I enjoy my time and playing soccer and I have fun”; and on day two she stated, “I enjoy playing soccer because it is one of my favourite sports so when I play I am calm and relaxed”; and finally on day three she concluded, “It makes me happy to know that everyone is enjoying themselves together.” Primary influential factors for soccer included: ‘playing’, ‘friends’ and ‘exercise’. The influential factors within the fitness unit were: ‘environment’, ‘like’ and ‘confidence’. One girl’s response highlights her enjoyment within fitness as she states on day one: “The social factors are great even though everyone has different strengths and body types we are all in the same boat.” Her

response on day two and three indicate that she feels steady enjoyment throughout the unit as she reports, “Same as the first report.”

Feelings of incompetence are the negative emotional experiences expressed by students resulting from perceived lack of ability through their judgments of self as well as perceived negative skill assessment from others. A specific example is highlighted in a girl’s response from the fitness unit as she discussed her negative feelings towards fitness testing as a result of perceived inability and discomfort within the environment. On day one she stated, “I’m not strong so it makes me feel nervous to do [fitness testing]. Others watching make fun of us for no apparent reason but because they’re ‘bored’ which makes me feel uncomfortable. Besides fitness testing I love gym, fitness”; and on day two she reported, “I can’t run long distances, for a long time.” Similarly, a girl from the soccer unit reported on day one: “This soccer unit affects my feelings somewhat. I am not the greatest soccer player so that made me a bit shy/tense.” On day two she explains how her insecurities are related to observations of others; “At times my body bothers me and I don’t like the feeling of being watched.” Primary influential factors highlighted within both units included: ‘observations’, ‘physique’, ‘judgments’, ‘social comparisons’ and ‘physical inability’. Table 6 summarizes students’ responses related to enjoyment, feelings of incompetence and the factors that influenced them.

4.4 Difference in Emotions across Two Units

4.4.1 Quantitative Analysis.

Three separate one-way ANOVAs ($p < .05$) were conducted to compare student emotion levels between the two instructional units of soccer and fitness (one for each of the three separate time points) (see Table 7). The Levene's test was used to examine if

individual group variances were the same (Field, 2008a). Items displaying a significance difference in their variance ($p < .05$) were further analyzed by utilizing the Broem-Forsythe and Welch versions of the F -ratio, which complied with the original overall main effect results indicating no corrections were needed (Field, 2008a; see Table 7). ANOVA results revealed that differences in state anxiety between soccer and fitness did not differ on day one $F(1, 65) = 1.11, p = .30, ES = .09$ or day two $F(1, 62) = .46, p = .50, ES = .01$). However day three was significantly different: $F(1, 60) = 5.69, p = .02, ES = .09$). The anxiety mean value for soccer on day three was 1.44 whereas the fitness mean was 1.85, a .41 unit difference. A second ANOVA, testing the same differences for enjoyment, revealed no significant differences on day one: $F(1, 65) = 1.30, p = .26, ES = .02$, day two: $F(1, 62) = .04, p = .85, ES = .00$, or day three: $F(1, 60) = .08, p = .78, ES = .00$. A final ANOVA test between unit differences for social physique anxiety revealed no significant difference on day one: $F(1, 65) = 2.57, p = .11, ES = .04$, and day two, $F(1, 62) = 2.34, p = .13, ES = .04$. Day three, however, showed significant values: $F(1, 60) = 8.13, p = .006, ES = .12$). The social physique anxiety mean value for fitness was 2.72, whereas the soccer mean was 2.13, resulting in a .60 unit difference. Collectively, these results indicated that the fitness classes reported higher levels of state anxiety and social physique anxiety during the final stage of the units.

4.4.2 Qualitative Analysis.

To further understand the differences in emotions across the soccer and fitness units, students' written responses to a single open ended question were analyzed using a three-tiered analysis identical to the one utilized in the previous qualitative within-unit analysis (see Figure 2 for an outline of each levels categories and subcategories). The first

level of analysis involved coding student responses and grouping them into a table format according to the two sensitizing concepts *emotions in fitness* and *emotions in soccer*.

These concepts were selected in direct response to the research question. Four themes emerged from this level of analysis, two from the fitness unit (positive emotions and negative emotions) and two from the soccer unit (positive emotions and negative emotions).

4.4.2a Level one: content analysis.

Positive emotions in fitness.

The category of ‘positive emotions’, included students’ responses that discussed a positive inclination to any aspect of the fitness unit. Specific influential themes that were highlighted in these comments included: ‘comfortable’, ‘confidence’, ‘friends’, ‘fun’, ‘happy’, ‘like’ and ‘challenge’. Students’ responses were consistently focused on individual confidence and comfort as witnessed in one girl’s statement, “I am confident in everything I do, I know I do my best and that’s all I can do, if people aren’t happy with it then that’s too bad cause I tried.” Positive affect towards the fitness unit consisted of only a small portion of student comments as the majority of the responses focused around negative influences on emotion. Specifically, the girls’ reported 20 different positive experiences and 41 negative experiences over the course of the unit.

Negative emotions in fitness.

Student comments that focused on negative factors related to the fitness unit, were placed into the category ‘negative emotions’. Primary influential factors included such themes as: ‘judgment’, ‘athletic figure’, ‘failure’, ‘awkward’, ‘uncomfortable’, ‘watching’, ‘anxiety’, ‘hate’ and ‘nervous/scared’. The major overarching theme found

within this category was *student embarrassment*; embarrassment stemmed from perceived low skill level and social observations. This theme was illustrated in one girl's statement, "When I hear we are doing fitness testing I want to give up because grade 10 and 11 boys are watching us ... they mock us. It's scary." Negative affective statements dominated student responses representing 67% of the written statements.

Positive emotions in soccer.

The category of 'positive emotions' encompassed students' responses that expressed a positive connotation towards the soccer unit and its influences on their emotions. Positive responses regarding various aspects of the soccer unit, comprised a majority of the students' written comments. Students' recorded 60 positive experiences out of a total 76 responses (79 % of all student responses). Specific prevalent words found within this category included: 'fun', 'play', 'energized', 'good', 'friends', 'happy', 'comfortable', 'enjoyment', 'environment' and 'supportive'. The major themes found within this level of analysis were *comfort* and *active play* with peers as most responses revolved around enjoyment within a comfortable environment and playing soccer with friends. For example, one girl stated, "I feel comfortable around my friends and I feel like I'm in a good environment and I don't have to be shy"; and another girl wrote; "Good time playing [soccer] with peers ... even though I'm not the greatest soccer player so that made me a bit shy/tense... Having good friends around me allowed me to be calmer."

Negative emotions in soccer.

Student responses that centered on negative affective influences, from within the soccer unit, were grouped under the category 'negative emotions'. Negative based comments, from both classes, were limited in comparison to students' positive affective

statements, consisting of less than a third of the responses (16 responses out of a total of 76). The theme, based on the small amount of information gathered from within this category, was focused around *embarrassment* stemming from social judgments of individual ability. One girl describes her physical inability as an influential factor of her embarrassment as she states, “When I play soccer I feel that people judge me because I am not good.” Responses concerning negative influential aspects included words such as: ‘evaluation’, ‘judgment’, ‘nervousness/scared’, ‘physique’, ‘athletic ability’ and ‘boredom’. All responses from the fitness unit’s categories of positive emotions and negative emotions as well as the soccer unit’s categories of positive emotions and negative emotions can be found in Appendix R.

4.4.2b Level two: a cross-categorical analysis.

Further inductive examination, level two of analysis, produced several specific themed subcategories within each unit of instruction. Level one coded data was examined in finer detail as each category was re-coded and subdivided into its own distinct themes/concepts. The fitness subcategories of social evaluations, body image and internal motivation and the soccer subcategories of security, social interaction and internal motivation, were derived from level two of analysis (see Tables 8.1 to 8.3 and 9.1 to 9.3). A categorical comparison was also conducted between the fitness and soccer subcategories, to determine any similarities and/or differences in students’ reported emotions within the soccer and fitness units.

Social evaluation (fitness).

Social evaluations are those which related to perceived negative observations, assessments and judgment made by others regarding oneself. Social evaluations arose

solely from the negative emotions category. *Negative social evaluations* were students' reported feelings of emotional discomfort and nervousness. Primary influential factors included: 'judgment', 'older male observations', 'social comparisons' and 'communication'. A specific example is highlighted in one girl's response as she stated, "Maybe it is that I am not comfortable with my body and I think other people will judge me and make fun of me and that would make me feel worse." Another student reported similar feelings stating, "Sometimes I feel like some of the girls' judge me. Also when grade 10 boys watch they openly mock us and it sucks." Table 8.1 summarizes all the social evaluation factors that influenced students' feelings negatively within the fitness units.

Body image (fitness).

Body image pertained to all thoughts and perceptions of the self regarding one's physique. Body image arose from both the positive and negative emotion categories, with a majority of the information focused on students' negative affect towards their physique. *Positive body image* highlighted students' confidence and comfort with their body and athleticism. Students' emphasized influences were based around their 'comfort' and 'confidence' with their appearance and PE clothing. For example, one girl described her comfort towards wearing her PE uniform stating, 'It doesn't bother me that others see me in my PE clothes.' Similarly, a different girl reports her feelings regarding her body, "I feel very comfortable and calm with my appearance."

Negative body images are those that influenced students' affect through negative thoughts, judgments, comparisons, observations and evaluations. This category dominated student responses, comprising over three quarters of the recorded body image

statements (20 negative responses out of the total 27 body image responses). This dominancy illustrates the frequency of negative thoughts and perceptions regarding the body on students' emotional state and motivation within fitness testing. Major influential factors indicated by students were: 'appearance', 'judgment', 'discomfort with body' and 'social comparisons'. One student discussed her negative feelings of body image stating, "The main factors that are affecting my feelings are my weight and how everyone else is so like small and skinny. I feel bad during fitness testing if someone gets a better mark than me. I feel like they got it because they are skinner than me." Table 8.2 summarizes all body image factors that influenced students' emotions within the fitness unit.

Internal motivations (fitness).

Internal motivations are those regarding student motivation and/or demotivation towards a task and the resultant effect on emotional state. Internal motivations arose from both the positive and negative emotions categories. *Positive internal motivations* focus on the impact that successful achievements, confidence in ability and challenging oneself has on emotional states and feelings towards the fitness unit tasks. Positive motivation influences were based around student perceptions of 'challenge', 'activities', 'accomplishments' and 'confidence'. For example, one girl discussed her motivations stating, "I like fitness testing its fun and challenges what I can do to make me do it at my best." A similar response was stated by another girl as she wrote, "The main factor I think about is that I can do better than the last time and hopefully I became stronger."

Negative internal motivations are the influential social and internal factors that alter a student's emotional state in a negative manner. Specifically, negative motivations were focused around the influential themes of 'social comparisons', 'judgment of skill',

‘preference of activities’, ‘self-evaluation of skill’, ‘competence’ and ‘confidence’. A girl describes her demotivation towards fitness testing as caused by her experiencing negative feeling states towards a particular test. Her response stated “The beep test makes me feel anxious and stressed.” A second girl reports of her internal concerns stating, “I dislike running its boring and annoying. I am not a good athlete so I feel uncomfortable amongst good runners and athletes.” Table 8.3 summarizes all internal motivation factors that influenced students’ emotion within the fitness units.

Social interactions and evaluations (soccer).

Social interactions pertained to any relation shared between students that influenced their emotional stability while engaged within the soccer unit. Social interactions arose from the positive category, whereas social evaluation evolved from the negative category. *Positive social interactions* were interactions that resulted in student enjoyment, happiness, fun, comfort, exploration and safety. The majority of positive interactions were described as occurring during the actual ‘playing’ of soccer, in the presence of ‘friends’, ‘interactions with peers’ and in a ‘comfortable and safe environment’. One girl reported her feelings of positive social interactions stating, “My feelings during this unit are social because you can be partners with new people you don’t usually talk to and happy because you are with friends and energetic because you are constantly moving.”

Negative social evaluations are perceptions which left students’ feeling scared, nervous, uncomfortable, embarrassed and/or judged through the actions and behaviours of others. Negative relations occurred with students registered within the grade nine class as well as older male students who were observing the class. For example, one girl

reported perceived negative evaluations from her classmates stating, "... At times my body bothers me and I don't like the feeling of being watched." A majority of negative evaluation influences were reported as: 'observations', 'evaluations', 'judgments' and 'ability/skill level'. However, a single student discussed direct and deliberate negative communication. She wrote, "Being pushed and bumped and having comments being made to me." Table 9.1 summarizes all the social interaction and evaluation factors that influence students' emotions states within the soccer unit.

Securities (soccer).

Securities relate to the class environment, lesson tasks/drills and perceived assessments that influenced students' emotions over the course of the unit. Securities arose from both the positive and negative emotion categories, highlighting different areas of focus. *Positive securities* are those factors that influenced students' emotions in an encouraging and comforting manner. Emphasized influential themes were: 'a comfortable and safe environment', 'inclusive and nonjudgmental classmates', and 'cooperation and teamwork'. One girl discussed that her feelings of security were based around the equal skill level of her classmates. She wrote, "I think the social factor of playing soccer makes it more fun because we were not all good at it and we joke around with each other."

Negative securities were observations, comparisons and evaluations, made by the self and others that had a discouraging effect on students' emotional stability and comfort level. Self and/or other 'judgments', perceived 'negative observations' and 'social comparisons' held the largest influence on student feelings towards and involvement within the unit. For example, highlighting her feelings of insecurity one girl wrote, "When the older boy's look through the windows it makes feel nervous and scared

(uncomfortable).” Table 9.2 summarizes all the security factors that influenced students’ state emotions within the soccer unit.

Internal motivations (soccer).

Internal motivations are those that impacted students’ motivation and influenced their state emotions within the soccer unit. Internal motivations were uncovered in both the positive and negative emotion categories, formed in level one of analysis. *Positive internal motivations* are individual motivators that influence students’ emotional state such that they experience positive affect towards the content of the soccer unit. The main influential motivations highlighted were: ‘enjoyment’ while playing soccer, ‘love’ for the sport of soccer, feeling ‘healthy and energetic’ while playing soccer and playing a ‘social’ sport. One girl discussed her internal motivation as being influenced by the active and high paced nature of soccer. She stated, “I feel energized and happy while playing soccer. I also feel excited because you get to get closer with friends.”

Negative internal motivations are those that demotivated students, resulting in negative feeling states towards the soccer unit. Major negative motivation influences on student emotion included: ‘dislike’ of soccer, and ‘boredom’ associated with skill development drills. For example, one girl wrote, “Passing the ball back and forth bores me” Additionally, another girl wrote about how her feelings and motivation were negatively influenced by self thoughts of physical inability. She stated, “When I play I feel happy but sometimes like I am not good enough, therefore I tend to worry and be a little shy on how well I play.” Table 9.3 summarizes all internal motivation factors that influenced students’ emotions within the soccer unit.

Comparison of state emotions within the fitness and soccer units.

A categorical comparison was conducted to determine any similarities and/or differences in the emotional patterns found across the fitness and soccer units. The comparison was divided into three sections: social, physical, and motivational, as these were the most prominent themes found to affect students' emotions within level two of analysis.

An examination of social influences indicated that the nature of student interactions was different from fitness to soccer. Within the soccer unit two primary social themes were uncovered: student engagement in relationships with others and student perceptions of negative evaluation and judgments from others. The single focal social pattern in the fitness unit was based on the influence of evaluations, observations and judgments from others on emotional state. The main difference between the two units was that although students within the soccer unit did express feelings of negative social evaluations and judgments, the majority of their responses were based on positive social interactions and relationships. This is a unique finding as no social relationships were discussed by students within the fitness unit. The similarity found within both units was the origin of social influential factors as students' state emotions were affected by the presence, thoughts and comparisons of others.

Physical influences on students' emotions, from both the soccer and fitness units, were found to share a common theme of comfort. Students' expressed the importance of physical comfort, while engaging in activities, as it can impact how students feel about themselves. A physical difference found between the units is the focal point of student concern regarding the physical self. Within the fitness unit students highlighted

apprehension towards what their physique looked like, how fit or in shape they were and looking athletic while completing tasks. Student anxieties within the soccer unit focused on perceived ability, assessment of skills and social comparisons of skill level.

Students' emotional state was also influenced by their internal thoughts and perceptions. A main difference found between soccer and fitness regarding student motivational influences was the underlying factors that helped to influence student enjoyment within and positive feelings towards the unit. Students in the fitness unit relied on self-motivation and challenge to push themselves and improve their scores whereas the focus of students' motivation within the soccer unit was socialization with friends while playing. A similarity that arose between soccer and fitness motivation was students' reported influential factors of: 'like and/or dislike' towards the unit of engagement and the attractiveness of lesson 'tasks'.

4.4.2c Level three: a thematic analysis.

The final level of analysis consisted of developing and interpreting themes and/or patterns derived from the first two levels of data examination, representing the deeper and more profound meanings from within the student responses. At this level of analysis soccer and fitness responses were studied as a single unit of information to allow the researcher to interpret the deep underlying theme from within a broader PE environment. The two major themes uncovered at this level were *emotional empowerment and emotional insecurities*. Student empowerment and insecurity responses were placed into two separate tables consisting of three categories, based from the cross-categorical comparison in level one, positive and negative feelings and level two, social influences, physical influences and motivational influences, of analysis (see Tables 10 and 11).

Emotional empowerment.

Emotional empowerment arose from the first two layers of data; positive emotions (layer one) as well as social, physical and motivational influences (layer two). Emotional empowerment pertained to students' affective responses that highlighted awareness and understanding of their current emotional state as well as any external factors that may be influencing it. *Social emotional empowerment* is that which illustrated students' feelings of support, comfort, trust and encouragement by friends and classmates, such that they experienced enjoyment and pleasure while engaged within their instructional unit.

Physical emotional empowerment is students' perceptions and beliefs of self-competence and self-confidence regarding their physique and physical ability; not only are they capable of completing the task but also feel comfortable doing it. *Motivational emotional empowerment* is students' internal understanding of how to engage themselves within an activity such that they enjoy the experience, apply effort, challenge themselves and are satisfied with their outcome, regardless of external influences. Table 10 summarizes all relevant student responses to positive emotional empowerment.

Emotional insecurities.

Emotional insecurities arose from students' perceptions of vulnerability and embarrassment regarding their physical ability and self-image, as well as their feeling states of discomfort, failure, anxiety and fear. Emotional insecurities emerged from both level one (negative emotions) and level two (social, physical and motivational influences) of analysis. *Social emotional insecurities* are those which highlighted students' feelings of failure, inadequacy, judgment and anxiety arising from perceived observations, comparisons and evaluations from classmates and other students. *Physical emotional*

insecurities are students' self-conscious feelings regarding their appearance and physical ability, such that they perceive themselves to be inferior to those around them and avoid situations which may highlight their imperfections. *Motivational emotional insecurities* are responses that indicate predetermined negative perceptions of a task, situation or environmental factor that instills fear, anxiety and discomfort within the student, resulting in reported feelings of inadequacy and avoidance behaviours. Table 11 summarizes all relevant student responses to negative emotional insecurities.

4.5 Relationship between Emotion and PE Grade

4.5.1 Quantitative Analysis.

Separate linear regression analyses ($p < .01$) were conducted to examine the predictive relationship of each emotion on students' final PE course grade. In each analysis all three phases of each emotion were entered simultaneously as the predictors while PE grade served as the outcome variable (see Table 12). All tests revealed that none of the emotions predicted students final PE grade: soccer state anxiety, $R = .17$, $F(3, 25) = .24$, $p = .87$; soccer enjoyment, $R = .33$, $F(3, 25) = 1.01$, $p = .40$; soccer social physique anxiety, $R = .06$, $F(3, 25) = .03$, $p = .99$; fitness state anxiety, $R = .13$, $F(3, 12) = .07$, $p = .97$; fitness enjoyment, $R = .21$, $F(3, 12) = .19$, $p = .90$; and fitness social physique anxiety, $R = .28$, $F(3, 12) = .34$, $p = .79$. These results indicated that the examined emotions during the soccer and fitness unit did not significantly predict student's final PE grade. A caution is in order here. Correlations between the three assessments of each emotion within each unit (separately during soccer and during fitness) were all statistically significant ($p < .01$); that is, moderate to high (.39 - .89) suggesting some multicollinearity (see Table 2b). Future analyses should calculate the

means for each of the three assessment points and use them as predictors instead of each assessment point separately.

4.5.2 Qualitative Analysis.

To enhance understanding of the relationship between students' emotions and their PE grade a content analysis of each individual's responses was conducted (see Figure 3 for an outline of layer ones categories). Student comments for both units were coded and separated into two categories of *positive emotions* and *negative emotions* related to student PE grade (see Appendix S). Upon initial examination of the data, very little information was found pertaining to students' feelings and their PE grades. Within the limited data, a broad theme was uncovered for each instructional unit. However, no subsequent subcategories were discovered. The themed category that arose from the fitness testing unit was *improvement*, whereas the soccer unit's themed grouping was titled *participation*.

4.5.2a Level one: content analysis.

Improvement.

The category 'improvement' encompassed all student responses related to emotions and PE grade within the fitness unit. All comments were centered on the concepts of: 'goals', 'improving scores' on individual tasks and 'personal achievement'. Students' answers revealed that their current feeling states were positively and/or negatively influenced by thoughts related to their PE grade. Students who expressed a positive influence in their feelings used terms such as: 'happy', 'accomplishment' and 'better', indicating a sense of satisfaction with their performance. A specific example from one girl is: "I am happy with my overall score." Negatively associated comments

included; 'bad', 'drop', 'not improving', 'higher mark' and 'comparing', suggesting student disappointment and increased levels of anxiety. For example, one girl stated, "I have to do the beep test today and I haven't done that in a while. I have to beat my score from last time but because I haven't been exercising as much as I used to I might not get a higher score."

Participation.

The category of 'participation' included students' responses that discussed their current feelings within the soccer unit related to their overall soccer achievement. These comments were very limited, in both classes, as only two students commented on the relationship between their state feelings and their PE grade. Both students related their current emotions positively to achievement using words such as, 'easy', 'effort' and 'good'. For example, one girl stated, "I find as long as you run for the ball you get good marks for effort." Similarly, the second girl's response was: "...It's easy to get good marks and it's not difficult to understand soccer concepts or have fun while playing it."

Chapter 5 – Discussion

To reiterate, this research had four main focal objectives. First, relations between the three specified emotions reported by grade nine girls during two units of PE were examined. Second, the levels and changes in these emotions over time were explored. Third, differences in each of these emotions were tested across a soccer and a fitness unit of instruction. Finally, the relation between students' emotions and their PE grade was examined. These objectives were derived from gaps found within previous emotional research in PE and the increasing reports of females dropping out of secondary PE as a result of negative experiences within it (Hannon & Pellet, 2005; Pfaeffli & Gibbons, 2010; Pringle, 2010; Rickwood & Temple, 2010). Stemming from these objectives, the intent of the following chapter is to discuss the main themes resulting from this study, indicate the study's structural and contextual limitations, and give suggestions for future research related to emotionality in PE.

5.1 Relationship among State Emotions

The significant inverse relationship shared between enjoyment and anxiety and social physique anxiety emphasizes that when a student experiences a positive occurrence in PE is likely that their negative affect will be at a lower level. Conversely, if the student experiences a negative situation in PE it is more likely that their positive feelings will be at a lower level. For example, Yli-Piipari et al. (2009) found that students with both high and low levels of motivation expressed low levels of anxiety and high-to-moderate levels of enjoyment within PE. This indicates that when students were experiencing some levels of enjoyment, regardless of their motivation towards PE, their anxiety levels were low. Similar to this study, prior research has determined that students' level of enjoyment,

anxiety, and social physique anxiety within an activity were dependent on factors such as social comparisons, competitiveness, and self and/or peer evaluations (Crawford & Eklund, 1994; Yli-Piipari et al., 2009; Rickwood & Temple, 2010).

The significantly positive relationship between anxiety and social physique anxiety indicated that these two emotions can be elicited from similar experiences and/or environments in PE and are likely to occur together. For example, Weinberg and Gould (2003) found that state anxiety increased in competitive and evaluative situations. These influential factors of competition and evaluation are also related to feelings of social physique anxiety. Reports from students also revealed similar patterns, as most of the negative reports discussed both types of anxiety within the same day (i.e., anxiety about the beep test and anxiety about evaluations).

5.2 Changes in Emotions within a Unit

5.2.1 Quantitative Findings.

This study found no significant differences in any of the three emotions (enjoyment, anxiety, or social physique anxiety) across the three time points within the soccer or fitness units of instruction. This suggests that over the course of these units, these emotions remain consistent regardless of the diverse learning content and environment. Research examining emotional change over time within PE is scarce to non-existent, providing limited literature from which to compare and discuss. Literature has suggested that students' emotional states are influenced by the type of activity they are engaged in and their past emotional experiences within the same activity; yet, such findings did not emerge in this study. Team-sport based research in PE has revealed that students either find the sport aspects of teamwork, challenge, and competition enjoyable

(Baron & Downey 2007; Smith & St. Pierre, 2009) or they find these aspects to produce high levels of social evaluations and assessments, leading to unpleasant feelings such as embarrassment and anxiety (Humbert, 2006; Ridgers et al., 2007; Sagar & Stoeber, 2009). This suggests that students may have a predetermined emotional characteristic (trait) towards PE units. For example, a student who is faced with a situation that has caused them a positive or negative emotion will react emotionally to the same situation in the future based on their first experience. This would indicate why their affective state would be relatively consistent throughout the course of that unit. Further research is needed regarding the changes in emotions over time, as these predictions are based solely on this study and the short length of time in which these emotions were assessed may not present the most accurate results.

A noteworthy finding was that of the enjoyment mean score value. For all classes, within both units of instruction, the enjoyment mean value was consistently high (i.e., 4.05 to 4.24 out of 5) while both anxiety and social physique anxiety mean values were consistently low on the scale (i.e., Anxiety 1.4 to 1.85 and SPA 2.13 to 2.72 out of 5). The reported high emotional mean values within the soccer unit of this study are contradictory to that of established research, as Pfaeffli and Gibbons (2010) stated in their study that girls reported negative feelings towards team sports within PE due to their competitive nature. This contrast between study findings may be the result of different teaching styles and strategies in regards to team based sports, as the soccer teacher within this study did not focus on competition or evaluation of skill (see Marisa's soccer units in method section). The reported enjoyment means for the fitness unit corresponded consistently with previous research as females have been reported to experience higher

levels of enjoyment in non-traditional activities (i.e., dancing, fitness) (Humbert, 2006; Lenskyj & Van Daalen, 2006). These results suggest that due to the consistent high nature of its mean value, enjoyment may have acted as a buffer to students other emotional states.

5.2.2 Qualitative Findings.

Qualitative responses from both the soccer and fitness unit produced a much greater breadth of information regarding the characteristics of students' emotions over time within a single instructional unit, when compared against the study's quantitative findings. Analysis uncovered three prominent themes from within the data relating to student emotional change; *consistent emotions*, *fluctuating emotions* and *contradictory emotions*. The category of consistent emotions corresponds with that of the quantitative data as the majority of students' reported no changes in their emotional state over the entire unit, whether positive or negative. However, this analysis provided a further understanding of students' consistent emotions, as the researcher was able to uncover patterns and influential factors of stability. For example, the subcategories of *positive and negative emotional experiences* were determined, indicating that students either expressed positive or negative affiliations with the PE unit. Positive-based emotions were associated with concepts such as friends, ability and confidence, happiness, enjoyment and the environment, whereas negative emotional states related to judgment, stress, social evaluation and skill level.

The second and third categories of *fluctuating* and *contradictory emotions* provide valuable insight into students' unstable emotional states and the short term variations evident in the qualitative data. Fluctuating emotions were the responses from students

that illustrated prominent changes in their affect over the course of the four days.

Changes occurred from positive to negative, negative to positive and negative/positive to neutral in both units. It is interesting to note that the changes in student emotions were influenced by different factors across both units. Within the fitness unit emotion changes did not occur out of relation to one another; rather, independent factors appeared to interact with the students' emotion on a daily basis. For example, a girl reported negative affect on day one as a result of social judgments; she then reported later in the week that her positive feeling state was influenced by her successful completion of a fitness task. Within the soccer unit the same influential factor was the basis of both positive and negative feelings throughout the week. For example, on day one a girl felt anxious as she thought others in the class were judging her based on her skill level. On day two she felt more enjoyment as the other girls in her class were including her in the soccer game and helping her improve her skill level.

Contradictory emotions represented students' comments that expressed both negative and positive feelings on the same day. Across both units, students who reported such feelings included both an 'other' and a 'self' comment discussing either their physique and ability or their enjoyment within the unit. All positive feeling states arose from student enjoyment towards the unit they were involved in, its environment and its activities. Consistent with this study's results, three prominent determinants that influence female enjoyment within PE include the teacher, the type of instructional unit and perceived competence (Hairul et al., 2008; Smith & St. Pierre, 2009). Students' negative emotions related to perceived evaluation and judgment from others and the self, regarding physical ability and appearance. The theme of negative based emotions

resulting from evaluation, judgment and assessment from peers or oneself, is consistent with anxiety literature that discusses how the open performance nature of PE increases observations from others, social comparisons and perceptions of negative evaluation (Crawford & Eklund, 1994; Weinberg & Gould, 2003; Ridgers, et al., 2007; Yli-Piipari et al., 2009; Rickwood & Temple, 2010).

The variation between students' emotional levels may be related to the way an individual is able to recognize, control and adjust their emotional state. For example, a student with consistent positive emotions may experience negative feelings however they are able to assess the feeling and move on in a short period of time. An individual who expresses a variety of emotions throughout the week may not be able to regulate their emotions as quickly. They may experience an emotion (positive or negative) and fixate on it.

5.3 Difference in Emotions across Two Units

5.3.1 Quantitative Findings.

The study's third objective was to compare students' emotional levels across the soccer and fitness units on each day of measurement. Quantitative analysis presented two significant findings, highlighting the differences between soccer and fitness levels of anxiety and social physique anxiety on the final day of both units. These findings are quite novel in this area of study, as current research has yet to fully explore the prevalence of female students' emotional states in a single unit of instruction, let alone examine specific state emotions across two separate units.

This connection between instructional unit and emotions has been researched with students' reporting that activities, task and testing have impacted their affect either

positively or negatively. Major themes emergent from these studies were that activities highlighting competition, sport and skill-based learning were not meeting emotional needs of young females (Hannon & Pellet, 2005; O'Brien et al., 2008), whereas fitness tasks and activity autonomy would improve female affect towards PE (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Gibbons, 2009; Smith & St. Pierre, 2009; Pfaeffli & Gibbons 2010).

Utilizing limited research, a potential hypothesis regarding the increase in both types of anxiety was developed specifically based on the content structure of the final day of each unit. The game play environment of the final soccer lesson versus the physical exertion and public nature of the beep test is what the researcher believes to be the basic foundation of the significant differences within anxiety levels. The final soccer lesson consisted of small sided game play, in which students were able to socialize with friends and play the game of soccer (rather than develop skill). These two concepts were frequently discussed and highlighted as a major source of enjoyment within the student's qualitative responses. Students' positive feeling states commonly occurred as a result of playing a soccer game, interacting with friends while playing soccer and feeling included while playing through the actions and cooperation of peers. This finding is supported by research, reporting that enjoyment was enhanced through team sports when it provided students with feelings of affiliation, belonging, comfort, learning and friendship (Humbert, 2006; Hairul et al., 2008; MacPhail et al., 2008; Smith & St. Pierre, 2009).

The fitness testing unit concluded with students completing the beep test and other unfinished fitness testing, tallying final overall scores and playing cooperative games. According current research, fitness tests in themselves (i.e., the beep test, strength

tasks) can cause students to experience increased negative emotional states (Silverman et al., 2008; Wiersma & Sherman, 2008). This statement highly corresponded with students' qualitative responses, as they indicated that the beep test (either thinking about it or while engaged in it) and not improving on their fitness testing scores increased their levels of anxiety. The main anxiety inducing theme found within these concepts was student perceptions of ability level in relation to the task goal. This is supported by Yli-Piipari et al. (2009) study as they also reported that if students' perceive their ability level to be below the standard for the task, the outcome will result in higher anxiety. The public nature of the beep test may have also influenced students' anxiety levels, as it increased the chance of peer observation and comparison of physical ability and physique.

5.3.2 Qualitative Findings.

Qualitative analysis produced further information regarding the differences in students' emotions across the two units of instruction. Compared student responses revealed that both similarities and differences in emotional patterns occurred between the two units. These patterns were identified under the two primary subcategories categories of social and physical influences. These findings provide valuable insight towards female emotional states across two very different units of instruction and how the structure of the unit plays a major role in providing students with a positive or negative experience. The origin of emotional social influences differed for both units as students within the soccer unit discussed themes of social engagement and relationships, whereas students within the fitness unit reported higher levels of negative interactions (i.e., perceived judgments and evaluations from others). Research regarding social influences on emotional states provides contradictory findings as both fitness testing and team sports have been reported

to have caused negative and positive feeling states within students. For example fitness testing has been found to provide students with a sense of enjoyment through improvement and challenge (MacPhail, et al., 2008), however its public setting and comparative nature induce higher levels of anxiety (Deng Keating, and Silverman 2004; Martin, & Kulinna, 2005). Cooperative team sport play has been found to provide students with enjoyable experiences (Barr-Anderson et al., 2007) whereas competitive game play that promotes public performances and social evaluations produce negative feeling states within females (Humbert, 2006; Ridgers et al., 2007; Sagar & Stoeber, 2009).

The theme of physical comfort was found to be a shared physical influence on students' emotions within both units. Students' expressed the importance of physical comfort, while engaging in activities, as it could either positively or negatively impact their arousal level, altering their feelings about the self and perceptions of others judgment towards them. The major difference between units was found within the student's focal concern of the self; in the fitness unit students' felt apprehension towards their physique whereas students within soccer reported concern regarding their physical competence. The fitness results are consistent with established research as it has been well documented that when fitness testing is instructed in such a way that promotes peer comparison and evaluation through public performance as well as provides open knowledge of individual ability it can cause increased levels of emotional discomfort and embarrassment (Hart et al., 1989; Eklund et al., 1996; Silverman et al., 2008). Soccer findings are also consistent with literature that states ones' perception of skill competence in regards to the task can influence either positive feeling states such as enjoyment

(MacPhail et al., 2008) or negative feeling states of worry and fear (Yli-Piipari et al., 2009).

The final level of qualitative analysis explored emotional differences between the two units on a deeper theoretical level and uncovered the two major overarching themes of *emotional empowerment* and *emotional insecurities*. Emotional empowerment, in relation to this study, is described as student's awareness of internal and external factors which alter her emotional state into feelings of positive belief and power in oneself and ability. These altered feelings were reported by students as having an influential impact on their involvement with and feelings of competence towards their peers, lesson activities and the class environment. Students' reported feelings of empowerment from three main sources, the class social sphere, their physical self and internal motivation. Regardless of the originating factor of empowerment, these students' felt positively connected to an experience within their PE lesson and possessed belief in their ability to achieve task goals. For example, students discussed how feelings of trust and support from friends and classmates gave them the confidence to become more engaged within their learning.

Emotional insecurities are defined (for use in this study) as student feelings of inadequacy and vulnerability, resulting from negative internal and external perceptions of her own physical ability and physique. Students' reported various social, personal and motivational factors as the root of these negative emotional feelings. For example, students who perceived their peers to be negatively judging their ability or physique reported feelings of belittlement and athletic failure. This is of significance, as research has documented that students who are continually exposed to negative experiences within

PE are more likely to discontinue their involvement with PE as well as have decreased participation within physical activity throughout their lives (Duncan, 1993; Levykh, 2008; Schweinle et al., 2008; Scott, 2008; Rickwood & Temple, 2010). For optimal student learning, these findings suggest educators understand the main causes of student emotional insecurities and attempt to create a learning environment that reduces the negative influences inflicted on students.

5.4 Relationship between Emotion and PE Grade

5.4.1 Quantitative Findings.

The final objective of this study was to analyze the relationship between students' emotions and their academic performance. The variables of enjoyment, anxiety and social physique, for both the soccer and fitness units, all failed to show significant relations with student PE grade, during the quantitative analysis. Literature has determined that emotions possess a mediating role within student achievement, as they interact directly with variables (i.e., motivation, behavior, self-regulated learning) that in turn affect academic performance (Pekrun, et al., 2002; Petrides, et al., 2004; Levykh, 2008; Schweinle et al., 2008; Scott, 2008; Sagar & Stoeber, 2009). This reiterates the importance of educators understanding and meeting the emotional needs of their students, as student affect has a major role in their continual involvement in and motivation towards learning as well as academic success.

5.4.2 Qualitative Findings.

A significant difference was uncovered in the relationship between students' emotions and their PE grade during the qualitative analysis, as student responses from the soccer and fitness units produced two different achievement based themes; participation

and improvement respectively. Students engaged within the soccer unit expressed concern regarding their engagement levels and effort within the lessons, whereas the fitness students' focused specifically on individual goals, task scores and achievement levels. Both themes expressed positive and negative emotional influences. Established PE research has yet to examine the relationship between the factors that construct achievement and its interaction with student emotion. Understanding how performance concepts specific to a single unit of instruction relate to student emotions would present valuable information to educators and should thus be examined further in research.

5.5 Limitations

Although the current study is novel in this area of research, it contains several limitations in structure and content. The first limitation of this study was that the data collection period occurred over a short length of time (four days), a single unit within the semester, examining only a small section of the entire PE course and its many content areas. A typical grade nine girls PE semester within the CDSB encompasses various unit categories including team sports, individual/dual games, health and wellness, cooperative games and fitness. This study researched the two units of soccer and fitness testing, which stem from the larger groupings of team sports and fitness, leaving over a third of the regular PE content unexamined. For this reason, the transfer of the study's findings are less generalizable when viewed across the other PE units, as they each possess unique content and learning characteristics that may not have been explored in this study.

The second limitation is the inconsistencies that occurred as a result of a student based research project, including self-reported data and potential participant recall. The utilization of self-reported data may be unreliable and should be inferred with caution as

students may have misunderstood the questions and/or not answered the questions seriously. The scripted protocol provided for teachers to recite before the students completed the questionnaire, reminded students that the research project was dependent on their truthful responses, highlighting the importance of completing the questionnaire seriously.

Justification for the use of the self-reporting method within this study is based on its title as an established practice that has been validated in various PE research studies (Garcia, Pender, Anotonakos & Ronis, 1998; Courtier, Chepko & Coughlin 2005; Knapik, Jones, Sharp, Darakjy, & Jones, 2007; Lodewyk et al., 2009). During the four day unit participants completed the same questionnaire on three occasions increasing their familiarity to the measure and potentially producing participant recall. Students repeated exposure to the study's measure within a short time period could have caused them to answer the question based on familiarity, however the length and structure of the questionnaire was meant to reduce this effect. Future research(ers) should increase the length of time that occurs between the days on which students completed the questionnaires.

The third limitation is the researcher's inability to directly observe the classes while they were being conducted nor was she able to administer the questionnaires herself. This resulted in the researcher basing her understanding and assumptions of the PE classroom environment and students on the information she gathered from each individual teacher's interview. The researcher was unable to fully report on the exact experience of the class, the teaching styles or extraneous variable that appeared in student qualitative responses (i.e., older boys watching fitness testing). Utilizing the classroom

teacher to directly distribute and administer the questionnaires may have influenced students' feelings towards the report and the honesty and seriousness in which they responded. Students may have felt pressure from the classroom teacher and/or nervous that their teacher was going to read their responses.

Lastly, the school sample specifically chosen for this study was based on selecting two high schools expressing similar demographic characteristics, such as population size, ethnicity, school environment and community. Due to the schools comparable nature the study's present findings are restricted in their generalizability to other schools outside of these characteristics, as the majority of students were of Caucasian decent and the surrounding community was suburban. Similarly, the gender specific sample, of all females, further limits the general population in which the study can be reliably compared against. Extending the results of this study to areas of elementary school, high diversity, males and/or urban living may be unreliable, as the information collected pertains to a select group of individuals and the extent to which it is transferable to other age groups, genders and environments are currently unknown.

5.7 Future Research

Future research projects examining the characteristics of emotions that occur within PE might consider adopting a longitudinal approach such that they are able to explore the entire PE experience and its influences on students' emotions. Researchers should assess the full PE semester, addressing each and every unit, in an attempt to gain a broader holistic understanding of the disturbances and tendencies of student emotions within a unit, the similarities and differences that occur across units as well as overall student emotionality experienced within PE. Extending the study to also include a greater

number of PE classes and a wider cultural sample would increase the knowledge and understanding of emotion characteristics across a variety of factors. This information is of value to educators, program directors, and coaches, as emotions have been increasingly reported as one of the main reasons for the decline in female enjoyment of and participation rates in physical activity and PE (Wang & Liu, 2007; Barr-Anderson et al., 2008; Halyk, Brittain, Dinger, Taylor, Shephard, 2010).

Secondly, researchers should further examine the relationship that exists between PE grade and student emotions within PE. Previous research has determined that students' emotional states within education have an indirect relation with their PE grade; leading this research project to examine whether a predictive relationship exists between students' affect and their PE grade. A shortcoming of this study was that students' final semester grade was utilized instead of their unit mark. Future researchers should address students' PE grade with these limitations in mind and approach their research utilizing both the students' unit grade as well as their overall PE course grade, as the unique factors within each unit may share a more direct relation with the students' unit grade and emotions experienced in the unit as opposed to the final course mark. If the study were to assess an entire PE semester, researchers should then evaluate the entire relationship that occurs between emotions and PE grade through analyzing both student unit and final course grades. This research should also assess varying aspects of student performance such as participation, effort, knowledge and understanding, determined outside of his/her academic grade.

A third future consideration would be to examine additional factors, such as gender, age, disability, physical appearance, perceived competence and ethnicity, which

may infer varying effects on student emotions with PE. This type of study should address not only what emotions affect students but also the major concepts that inspire or hinder these emotions, as previous research has determined these various factors are related to student emotions within PE (Weiss, Ebbeck, McAuley, & Wiese, 1990; Pajares, 1996; Carroll & Loumidis, 2001; Lirgg, 2006; Ridgers et al., 2007; Lodewyk et al. 2009b). This could provide insight to educators regarding the specific areas and/or factors within PE that are emotionally stressful, emotionally motivating, emotionally engaging or emotionally deterring for students. Researchers should also report the differences and similarities between these diverse groups within single units as well as across units of instruction, allowing for major themes and patterns to be uncovered within each group of individuals. These findings may provide educators with better knowledge and further understanding of their focal group of students such that they are able to adapt and modify their lessons to meet not only the student's physical and social needs but also their emotional needs. Due to the limited academic resources regarding this area of interest, further research is needed in order to gain a deeper understanding of the topic and to unveil all relevant factors contributing to the relationship that exists between emotions and PE over time and across units.

Future PE research should also examine the relationship between emotion valance (positive or negative) and the influential variables of PE grade, as education research has indicated that positive emotions indirectly promote achievement whereas negative based emotions indirectly hinder student performance. For example, higher levels of enjoyment have been related to higher student involvement through increased motivation to participate in lesson tasks, develop skills and gain further knowledge (Duncan, 1993;

Schweinle et al., 2008; Scott, 2008). Students who possess high anxiety levels have difficulties paying attention, learning new concepts, demonstrate decreased performance and are less likely to participate in class activities (Lodewyk et al. 2009b; Rickwood & Temple, 2010). These findings indicate that students are more likely to engage in activities that they find pleasurable and that they associate with positive emotions. PE teachers should try to understand and utilize these factors which elicit positive feelings and create lesson based upon these concepts in an attempt to indirectly improve student achievement.

5.8 Conclusion

In conclusion, this study highlights the characteristics and patterns of three emotions as they occurred over time within a single PE unit as well as across two separate PE units and in relation to students' PE grade. The information reported is threefold; first it provides valuable insight into the field of emotionality and PE through filling a void within established research, as previous studies have yet to evaluate multiple state emotions simultaneously across various contexts. Secondly, at the PE high school administration and educator level, it offers new awareness of the emotional states experienced within PE, the factors that relate to these emotions and the characteristics of these emotions as they occur in PE. Lastly, the utilization of a mixed method approach presented a 'holistic' view of student affect and the influential factors within PE, as every concept was examined twice and through a separate theoretical "lens" each time.

The statistical analyses conducted within this study produced few significant findings across all major research objectives. The non-significance also provides valuable insight to PE and emotion research, as it still indicated that emotions do not fluctuate,

which is a valid finding. However, several influential factors of student emotions were uncovered during the qualitative analysis, including themes of fluctuations, consistencies and contradictions, social and physical implications, as well as the predominant themes of emotional empowerment and emotional insecurities. The contradictory findings between the two methods of analysis indicates that when examining a sensitive, deep internal concept such as emotion, providing individuals with the ability to openly express what and how they are feeling, allows them to truly evaluate their current state from an internal perspective rather than base their feelings on predetermined emotional states. This approach also provides the researcher with the privilege of ‘personally’ experiencing the deeper feelings and cognitions of the participants, as they relive them. This is not to say that the quantitative analysis was insignificant, however this method can only produce information based on questionnaire responses which in this case were not sufficient at reporting the emotional experiences of girls within grade nine PE.

The study’s major findings suggest that the main components within PE that impact student emotion stem from the environment, lesson content, social interactions and perceptions of one’s self and ability. As these concepts are stable and bound to PE as well as influential factors in student continual involvement within PE, educators should attempt to alter how they are conducted and/or constructed in order to meet the emotional needs of each individual student, increasing the likelihood of them experiencing positive affiliations with PE. In spite of this study’s present findings, a lack of scholarly knowledge and understanding still remains regarding the nature of emotions across time, within instructional units of PE and in relation to PE grade. Exploring further into this area is of importance as emotions have been reported to hold a dominant presence within

PE, student continual involvement within PE as well as the health and physical activity behaviors and attitudes of individuals throughout their lives.

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Tables

Table 1

Descriptive Statistics and Reliability Coefficients for State Emotion Questionnaires on each Time Point (Day)

Day	Soccer			Fitness		
	1	2	3	1	2	3
State Anxiety						
<i>a</i>	.57	.70	.85	.60	.87	.88
<i>M</i>	1.50	1.51	1.44	1.62	1.61	1.85
<i>SD</i>	.38	.46	.58	.48	.61	.79
Enjoyment						
<i>a</i>	.77	.87	.88	.85	.93	.92
<i>M</i>	4.24	4.13	4.12	4.06	4.17	4.05
<i>SD</i>	.55	.61	.76	1.04	.96	.78
Social Physique Anxiety						
<i>a</i>	.87	.88	.89	.90	.88	.85
<i>M</i>	2.28	2.28	2.13	2.61	2.60	2.72
<i>SD</i>	.80	.80	.76	.91	.87	.87
<i>n</i>	34	34	31	33	30	31
<i>N</i>	67	64	62	67	64	62

*State anxiety scale 1-4; Enjoyment and Social Physique Anxiety scales 1-5

Table 2a

Bivariate Correlations of State Emotions between the Instructional Units of Soccer and Fitness

	Fitness								
	State Anxiety			Social Physique Anxiety			Enjoyment		
	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3
State Anxiety									
Day 1	---			.34			-.55**		
Day 2		---			.36			-.62**	
Day 3			---						-.46**
						.51**			
Social Physique Anxiety									
Day 1	.35*			---			-.35*		
Day 2		.45**			---			-.50**	
Day 3			.56**			---			-.40*
Enjoyment									
Day 1	-.10			-.09			---		
Day 2		-.43*			-.14			---	
Day 3			-.54**			-.41*			---

*. Correlation is significant at the 0.05 level (2-tailed)

**. Correlation is significant at the 0.01 level (2-tailed)

Table 2b

Bivariate Correlations of State Emotions within the Instructional Units of Soccer and Fitness

	Fitness								
	State Anxiety			Social Physique Anxiety			Enjoyment		
	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3
State Anxiety									
Day 1	---	.65	.39	---	.84	.82	---	.89	.76
Day 2	.69	---	.46		---	.89		---	.94
Day 3	.66	.70	---			---			---
Social Physique Anxiety									
Day 1	---								
Day 2	.83	---							
Day 3	.62	.63	---						
Enjoyment									
Day 1	---								
Day 2	.70	---							
Day 3	.57	.72	---						

Note: Correlations for within soccer are in the bottom diagonal; Correlations for within fitness are in the top diagonal. All were significant at the 0.01 level (2-tailed)

Table 3

Analysis of Variance of Emotional Change over Time within a Single Instructional Unit of Soccer or Fitness

	Effect	<i>MS</i>	<i>Df</i>	<i>F</i>	<i>p</i>	Greenhouse-Geisser	Huynh-Feldt
Soccer	State Anxiety	.02	2	.27	.76	.83	.88
	Enjoyment	.080	1.53	.48	.57	.73	.76
	Social Physique Anxiety	.14	2	.69	.51	.84	.89
Fitness	State Anxiety	.80	1.57	2.71	.09	.75	.79
	Enjoyment	.09	1.50	.66	.48	.72	.75
	Social Physique Anxiety	.04	2	.30	.74	.92	.98

*. Effect is significant at the 0.05 level

Table 4.1

Factors that Influenced Student Emotional Fluctuations from Positive to Negative within the Fitness Unit

Positive influential factors
<ul style="list-style-type: none"> • Classmates are viewed as friends (1) • Comfortable to be with classmates (1)
Negative influential factors
<ul style="list-style-type: none"> • Not improving one's score (2)

Table 4.2

Factors that Influenced Student Emotional Fluctuation from Negative to Positive within the Fitness Unit

Negative influential factors
<ul style="list-style-type: none"> • Social observations from others (2) • Pressure to improve skill level and do better (1) • Social comparisons of ability – need to be as good as others (1)
Positive influential factors
<ul style="list-style-type: none"> • Successful accomplishments (2) • Comfortable environment and positive interactions with classmates (1) • Overall score (1)

Table 4.3

Factors that Influenced Student Emotional Fluctuation from Negative/Positive to Neutral within the Fitness Unit

Negative and/or positive influential factors
<ul style="list-style-type: none"> • Like fitness testing – fun and challenging (positive) (2) • Older male observations (negative) (1)
Neutral factors
<ul style="list-style-type: none"> • Nothing is affect me (3) • Fine/I feel fine (2)

Table 5.1

Factors that Influenced Student Emotional Fluctuation from Positive to Negative within the Soccer Unit

Positive influential factors
<ul style="list-style-type: none"> • Confidence with friends around and love for soccer – feels good to play (2) • Increased skill level with more exposure to playing – more trust from classmates (2)
Negative influential factors
<ul style="list-style-type: none"> • Decreased confidence and boredom resulting from drill based activities (2) • Perceived judgment from others based on skill level and ability (2)

Table 5.2

Factors that Influenced Student Emotional Fluctuation from Negative to Positive within the Soccer Unit

Negative influential factors
<ul style="list-style-type: none"> • Not feeling athletic – leads to embarrassment (2) • Soccer – leads to emotional stress (2)
Positive influential factors
<ul style="list-style-type: none"> • Increased effort – leads to enjoyment (2) • No emotional stressors – enjoying self and classmates (2)

Table 5.3

Factors that Influenced Student Emotional Fluctuation from Negative/Positive to Neutral within the Soccer Unit

Negative and/or positive influential factors
<ul style="list-style-type: none"> • Spending time with friends playing soccer (positive) (2) • Calm environment (positive) (1) • Skill level and body – feelings of tenseness/shyness (negative) (2) • Stress from playing soccer (negative) (2)
Neutral factors
<ul style="list-style-type: none"> • No main factors affecting current feelings (4) • Soccer unit is not affecting me because of my friends (1)

Table 6

Student Enjoyment, Feelings of Incompetence and the Factors that influenced them within the Soccer and Fitness Units

<p>Enjoyment</p> <ul style="list-style-type: none"> • When I play [soccer] I feel happy (12) • Enjoy/Happy in P.E. and fitness (7) • [Fitness testing] is fun (4)
<p>Factors influencing enjoyment</p> <ul style="list-style-type: none"> • Feel great when playing [soccer] (15) • Good time playing [soccer] with my peers (13) • Feel good because of exercising [in soccer] (7) • Like the environment of the gym – calm, comfortable (F – 4, S - 6) • Confident in skills (F – 2, S - 1) • I like this [fitness] class (2) •
<p>Feelings of incompetence</p> <ul style="list-style-type: none"> • Feeling of being judged by girls in class and mocked by older boys (F – 9, S - 5) • Feel not good enough/not athletic – embarrassed, worried and shy (F – 5, S - 8) • Feel emotionally stressed (S - 3)
<p>Factors influencing feelings of incompetence</p> <ul style="list-style-type: none"> • Observations/perceived judgments from others (F -12, S - 5) • Don't like appearance of physique (F – 11, S – 2) • Fail at activities/anxious because not physically able to complete tasks (F - 5, S - 3) • Uncomfortable comparing fitness/physique to others in the class (F – 4)
<p>*F = Number of student responses in the Fitness Unit *S = Number of student responses in the Soccer Unit</p>

Table 7

Analysis of Variance of Emotional Level Compared Across Instructional Units (Soccer and Fitness)

Effect	N	MS	df	F	P
State Anxiety					
Day 1	67	.21	1	1.11	.30
Day 2	64	.13	1	.46	.50
Day 3	62	2.73	1	5.69	.02*
Enjoyment					
Day 1	67	.59	1	1.30	.26
Day 2	64	.02	1	.04	.85
Day 3	62	.07	1	.08	.78
Social Physique Anxiety					
Day 1	67	1.88	1	2.57	.11
Day 2	64	1.62	1	2.34	.13
Day 3	62	5.42	1	8.13	.006**

*. Effect is significant at the 0.05 level

**. Effect is significant at the 0.01 level

Table 8.1

Social Evaluation Factors that Influenced Students Feelings Negatively within the Fitness Unit

Social evaluation influential factors
<ul style="list-style-type: none"> • Perceived observations, judgments and negative evaluations from classmates – leads to discomfort, scared, nervous (12) • Negative verbal communication and evaluation (9) • Older males observation - leads to discomfort (6) • Social comparison and assessment of skills (4) • Older male verbal harassment (2)

Table 8.2

Body Image Factors that Influenced Students' Positive and Negative Emotions within the Fitness Unit

Positive body image factors
<ul style="list-style-type: none"> • Confident and comfortable in physical education clothes (2) • Comfortable with appearance (2)

Negative body image factors
<ul style="list-style-type: none"> • Physical appearance - looking awkward, discomfort in size, shape and weight of body (10) • Physically not in shape or fit – leads to embarrassment (5) • Social comparison of skill level and athleticism (4) • Not looking athletic (3) • Uncomfortable in the physical education uniform (2)

Table 8.3

Internal Motivation Factors that Influenced Students' Emotional States within the Fitness Unit

Positive internal motivation factors	
•	Challenge self to improve score and to try to be the best (4)
•	Successful accomplishments – leads to happiness (3)
•	Fitness/activities are fun – lead to enjoyment (3)
•	Confidence in skill and ability (2)
Negative internal motivation factors	
•	Social comparison to be as good as others - physical skills (4)
•	Dropping of grade and not improving – leads to anxiety (3)
•	Beep test – leads to nervousness and anxiety (3)
•	Running is boring and annoying – dislike (3)

Table 9.1

Social Interaction and Evaluation Factors that Influenced Students' Emotional States within the Soccer Unit

Positive social interaction factors
<ul style="list-style-type: none"> • Comfort, trust, no judgment and safety around friends/classmates (13) • Socialization and playing soccer with friends/classmates – leads to fun, happiness (10) • Spending time with people in the class – lead to enjoyment (9) • Teachers are welcoming and supportive (2) • Meeting new people (1)
Negative social evaluation factors
<ul style="list-style-type: none"> • Thoughts that others are evaluating and judging ability/appearance (4) • Ability/skill level perceived lower than classmates (3) • Observations from older males (1) • Physical and/or verbal harassment (1)

Table 9.2

Security Factors that Influenced Students' Emotional States within the Soccer Unit

Positive security factors
<ul style="list-style-type: none"> • Playing soccer is calming and relaxing – feels good (8) • Respect through non judgment and inclusiveness (8) • Soccer unit is comfortable (6) • Environment is calm, safe, friendly and inviting (5) • Classmates/teachers are welcoming and comfortable (5)
Negative security factors
<ul style="list-style-type: none"> • Perceived negative thoughts and observations from others – leads to scared/nervousness (5) • Concern of perceived skill level/ability – affect confidence, nervousness (3) • Fail at activities/anxious because not physically able to complete tasks (3)

Table 9.3

Internal Motivation Factors that Influenced Students' Emotional States within the Soccer Unit

Positive internal motivation factors	
•	Playing soccer feels good and healthy – leads to enjoyment (6)
•	Playing soccer with friends – leads to fun (6)
•	Soccer is one of my favorite sports (6)
•	Soccer is easy to understand and learn (3)
•	Feels good to use energy and effort (3)
•	Playing soccer is more fun than other subjects (1)
Negative internal motivation factors	
•	Skill development drills/soccer is boring (6)
•	Dislike playing soccer (4)

Table 10

Student Emotional Empowerment through Positive Social, Physical and Motivational Influences

Social influences
<ul style="list-style-type: none"> • Communicate well with others • Comfortable with the environment socially • Comfortable with the people around me • Comfortable around friends • Comfortable because everyone is friends with one another • Comfortable displaying soccer skills • Environmental is comfortable Friendly environment - don't feel shy • Friendly environment – won't get made fun of • Feel included and safe – having fun • Feel included in soccer games • Fun to socialize with my friends • Happy with friends • Friends won't judge me • Feel energized and happy with friends • Feel happy with my friends • Playing with friends is fun Calm around friends • Fun playing with classmates/friends • Good time playing soccer with peers • Happy around classmates • Teachers are welcoming and supportive • Interact positively with classmates through soccer • Trust from others due to skill level • Like the people in the class • Everyone is different but we all get along • Happy everyone is enjoying themselves together • Socialization during soccer is fun we don't focus on skill as much
Physical influences
<ul style="list-style-type: none"> • Comfortable with the environment physical • Comfortable with body – not bothered by PE clothes • Don't care if others see me in my PE clothes • Feel good about soccer – not shy – play for a very competitive soccer league • Confident with looks • Trust from others occurred with increase in skill level • Confident with figure • Feel comfortable playing soccer and body • Feel comfortable and calm with appearance

Motivational influences

- Like fitness testing - fun and challenging – to improve
 - Fitness testing is fun – challenge and hard work to get better
 - Feel comfortable in all situations because tried hardest
 - Confident in fitness testing ability -try hardest and push self
 - Work hard to do better than the last time – hopefully became stronger
 - Confident in ability - do best and that's all that matters – doesn't matter what others think because of effort
 - Fun and try hard to do the best of ability
 - Confident and push self
 - Try hard to play good soccer -
 - don't care what people think about ability
 - Feel good about self – exercising
 - Easy to get good marks and understand soccer concepts
 - Enjoy playing soccer - favorite sports - calm and relaxed while playing
 - Feel comfortable and learning everything about soccer
 - Feel energized, happy and healthy when play soccer
 - Feel put more effort into playing – enjoy it
-

Table 11

Student Emotional Insecurities through Negative Social, Physical and Motivational Influences

Social influences
<ul style="list-style-type: none"> • Social comparison of skill – have to do good as other girls • Feel judged by others who perform activities better • Feel other people judge and make fun of body • Feel bad because can't communicate well with other girls • Anxious about older males watching class - might make fun • Perceived judgments from others • Uncomfortable when girls in the class talking bad • Anxious when other people come in and watch • People aren't always nice –talk about people – do not enjoy class • Don't like the fitness uniform • Feel uncomfortable comparing fitness to others in the class • Uncomfortable with perceived weight - everyone else is small and skinny • Feel comments are made about weight – perceived • Feel uncomfortable with self around other people • Feel judgment from other girls because of skill level • Uncomfortable when older males stare – scared and nervous • Feel bothered by thoughts of others

Physical influences
<ul style="list-style-type: none"> • Uncomfortable with body • Uncomfortable with physical body • Feel unfit – others are not as visibly exhausted from same activity • Dislike the PE/fitness uniform • Feel out of shape • Dislike look of body • Dislike physique/figure • Feel out of shape • Appearance not looking athletic • Feel uncomfortable amongst good runners and athletes – not a good athlete • Feel nervous to do fitness tasks because not strong • Feel embarrassed because not athletic • Don't feel like an athlete • Bothered by body – don't like to be watched • Concerned with body looking awkward, bad, poorly – in front of others • Perception that everyone is physically smaller – they do better at tasks • I don't like comparing my physical skills to others

Motivational influences

- Tired and less active because of gym lights
 - Beep test – need to get higher score – haven't been exercising as much – might not achieve goal
 - Decrease in score for all fitness events
 - Beep test – not improving
 - Dislike fitness testing - not the best at it
 - Feel bad if girls get higher marks in fitness testing – perceive they get it because they are skinner
 - Not reaching fitness goals this week
 - Don't want to try at fitness testing – older males watch us – scary
 - Soccer drills bring down confidence – skill level to low
 - Worry and shy during soccer game – don't feel skill is good enough
 - Shy/tense while playing – not the greatest soccer player
-

Table 12

Predictive Relationship between State Emotions and Student Final Grade

	Soccer			Fitness		
Day	1	2	3	1	2	3
State Anxiety						
n	29	29	29	16	16	16
B	-1.18	-2.13	2.10	-1.13	2.48	-1.51
SE_B	4.32	4.04	2.58	4.91	5.54	4.23
B	-.08	-.16	.24	-.10	.24	-1.57
t	-.27	-.53	.81	-.23	.45	-.36
p	.79	.60	.42	.82	.66	.73
Enjoyment						
n	29	29	29	16	16	16
B	-.20	4.07	-1.56	-2.86	6.0	-3.27
SE_B	3.09	3.41	1.82	5.90	8.08	5.79
B	-.02	.45	-.22	-.39	.84	-.47
t	-.06	1.20	-.86	-.485	.74	-.56
p	.95	.24	.40	.64	.47	.58
Social Physique Anxiety						
n	29	29	29	16	16	16
B	.29	-.25	.32	1.6	-6.06	3.87
SE_B	2.37	2.32	1.77	3.73	6.25	4.96
B	.05	-.04	.05	.21	-.67	.52
t	.12	-.11	.18	.43	-.97	.78
p	.90	.92	.86	.68	.35	.45

*. Significant at the 0.05 level (2-tailed)

Figures

Figure 1

Breakdown of the Three-Tiered Approach for Fluctuation in Emotions over Time within each Unit (Research Question Two)

Sensitizing concept	Level one: content analysis - categories	Level two: cross-case analysis - subcategories
Emotional impact	Fluctuating emotions	-Positive to negative affect -Negative to positive affect -Negative/positive affect to neutral feelings
	Consistent emotions	N/A
	Conflicting emotions	-Enjoyment -Feelings of incompetence

Figure 2

*Breakdown of the Three-Tiered Approach for Variation in Emotions across Two Units
(Research Question Three)*

Sensitizing concept	Level one: content analysis categories	Level two: cross-categorical analysis subcategories	Level three: thematic analysis
Emotions in fitness	Positive emotions in fitness	-Body image -Internal motivations	
	Negative emotions in fitness	-Social evaluation -Body image -Internal motivations	-Emotional empowerment
Emotions in soccer	Positive emotions in soccer	-Social interactions -Securities -Internal motivations	-Emotional insecurities
	Negative emotions in soccer	-Social interactions -Securities -Internal motivations	

Figure 3

Breakdown of the Three-Tiered Approach for Relationship between Emotion and PE Grade (Research Question Four)

Sensitizing concept	Level one: content analysis categories
Positive and negative emotions related to PE grade	Improvement (fitness) Participation (soccer)

Appendix A

Cover Letter to CDSB's Physical Education Consultant

July 16, 2010

Mr. Herbert Smith
Niagara Catholic District School Board
427 Rice Road
Welland, ON
L3C-7C1

Dear Mr. Smith,

Enclosed please find the materials for a study in grade 9 girls physical and health education cleared by the Research Ethics Board of Brock University (File #09-239) entitled *A Study of Beliefs and Emotions in Girls' High School Physical Education*. The study will be conducted by Dr. Ken Lodewyk, an associate professor of Physical Education and Kinesiology at Brock University, and Ms. Amber Muir, a graduate student in the Master of Arts program at Brock University. We have shown and discussed the proposed research with Mr. Mike Sheahan who has expressed his preliminary interest in and support of the study. He recommended that we contact you to request your authorization to conduct this study in several grade 9 physical education classes within the Niagara Catholic District School Board.

Given the unique concerns and higher dropout rates of girls in high school physical and health education, this research aims to discover how girls' emotions and confidence to learn and perform in ninth-grade physical and health education differ over time within and between two units of instruction; and, how these relate to their PE grade and the reasons they give for their achievement. We understand are prepared to adjust any procedures outlined in this proposal based on the particular unit, classes, teacher preferences, and other aspects of the research setting.

The research involves volunteering students completing a questionnaire during physical education class that will take approximately 10-15 minutes or about 3.5% of the time allocated to the curricular unit. They will complete a questionnaire near the end of the first class, mid-point, and end of each unit. The first questionnaire asks students to report their gender, ethnicity, age and student ID number. It and the next questionnaire ask students to rate (from 1-5 for example) 39-statements based on their agreement or disagreement with each. It also provides students with a single question in which they can express the reasons for their ratings on those statements. We also request that each school and/or teacher provide us with each participating students' recent physical education grades.

There are no known or anticipated risks associated with participation in this study. Teachers and students participation in this study is voluntary and they may withdraw from the study at any time and for any reason. The data will remain confidential and anonymous. The Niagara Catholic District School Board and any participating schools and teachers will receive a final written report and/or verbal presentation with the overall results of the study. The research will also likely be disseminated in a physical and health education research publication.

If you have any questions or concerns about this study, please contact either of us [Ken Lodewyk at (905) 688-5550 extension 5220; e-mail klodewyk@brocku.ca, Amber Muir at (905)-941-9030 am05wu@brocku.ca]. We will contact you by e-mail or phone in the following days to discuss our request and are available for a meeting if you prefer. Thank you *very much* for considering our request.

Sincerely,

Amber Muir, BPhed
Brock University

Ken Lodewyk, Ph.D.
Brock University

Appendix B

Letters of Invitation to Principals, PE Department Heads and PE Teachers

Oct 20, 2010

Physical and Health Education Department Head
School, Niagara Catholic District School Board

Dear Sir/Madam,

Enclosed please find the materials for a study cleared by the Niagara Catholic District School Board and Brock University ethics entitled *A Study of Beliefs and Emotions in Girls' High School Physical Education*. We are writing to request participation from some physical education teachers and students in their grade 9 physical education classes within your school. The study will be conducted by Ms. Amber Muir, a graduate student in the Master of Arts program at Brock University, under the supervision of Dr. Ken Lodewyk, an associate professor of Physical Education and Kinesiology at Brock University. This study has been reviewed and received clearance from the Research Ethics Board of Brock University (File #09-239) and the Niagara Catholic District School Board.

The general aim of this research is to discover how girls' emotions and confidence to learn and perform in ninth-grade physical education differ over time within a games unit of instruction; and, how these relate to their PE grade and the reasons they give for their achievement.

The research involves volunteering students completing a questionnaire during their physical education class (taking approximately 10-15 minutes) on three separate occasions within a week games unit (near the end of the first class, the mid-point, and end of each unit). The first questionnaire asks students to report their gender, ethnicity, age and student ID number. It and the remaining questionnaires ask students to rate (from 1-5 for example) 39-statements based on their agreement or disagreement with each. The measure also provides students with a single question in which they can express the reasons for their ratings on those statements. Students' involvement in the study will total on average 35 minutes or about 3.5% of the time allocated to the curricular unit. Students who choose not to participate will work quietly along with the rest of the class on an alternative curricular activity designed and approved by the classroom teacher. We also request that each school and/or teacher provide us with each participating students' recent physical education grades.

There are no known or anticipated risks associated with participation in this study. Teachers and students participation in this study is voluntary and they may withdraw from the study at any time and for any reason. The data will remain confidential and

anonymous. Any data collected as part of the research study will not be viewed by the participant's teacher nor will they be used as part of a student's grades. Participating schools will receive a final written report with the overall results of the study, which may also be shared with teachers at a school district professional development workshop or in a publication.

If you have any questions or concerns about this study please contact either Amber Muir at (905)-941-9030 am05wu@brocku.ca, Dr. Ken Lodewyk at (905) 688-5550 extension 5220; e-mail klodewyk@brocku.ca, or the Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca). We will contact you by phone in the following days to discuss our request and are available for a meeting if you would prefer that. Thank you *very much* for considering this request.

Sincerely,

Amber Muir, BPHED
Brock University

Ken Lodewyk, Ph. D
Brock University

Appendix C

Letter of Invitation for Parent/Guardian

Dec 5, 2010

Dear Parents(s) or Guardian(s):

The following letter and consent form are to inform you of a study we wish to conduct within your daughter's grade nine physical education class and to ask your permission for her to participate in the study. The title of this research is: *A Study of Beliefs and Emotions in Girls' High School Physical Education*. The study will be conducted by Ms. Amber Muir, a graduate student in the Master of Arts (Physical Education) program at Brock University under the supervision of Dr. Ken Lodewyk, an associate professor of Physical Education and Kinesiology at Brock University. The study has been reviewed and received clearance from the Research Ethics Board of Brock University (File #09-239), the Niagara Catholic District School Board, the school's principal, and your daughter's physical education teacher.

The general aim of this research is to discover how girls' emotions and confidence to learn and perform in ninth-grade physical education differ over time within a unit of instruction; and, how these relate to their PE grade. The research involves volunteering students to complete a questionnaire during their physical education class that will take approximately 10-15 minutes. The questionnaires will be completed on three separate occasions within a week games unit; near the end of the first class, the mid-point, and end of each unit. The first questionnaire asks students to report their gender, ethnicity, age and student ID number. It and the next questionnaire ask students to rate (from 1-5 for example) statements based on their agreement or disagreement with each. It also provides students with a single question in which they can express the reasons for their ratings on those statements. Students' involvement in the study will total on average 35 minutes or about 3.5% of the time allocated to each curricular unit. We also request that each school and/or teacher provide us with each participating students' recent physical education grades.

Participation in the research project will be strictly voluntary. Should you allow your daughter to participate, you and/or your daughter will have the option of withdrawing from the study at anytime for any reason without consequence. Simply inform one of the researchers, teachers, or principal that you wish to withdraw from the study and your information will be removed upon your request. As well, you and your daughter have the right to not answer any question that you or your daughter consider inappropriate. Any students choosing not to participate will work quietly in the same classroom on an alternative activity designed by the classroom teacher and will still engage in all normal physical education class activities as instructed by their teacher.

Any data collected will remain confidential and the results will be kept confidential and anonymous. In other words, since students' names will not be requested on the questionnaires, their name will not be associated with their answers to the items. Any

data collected as part of the research study will not be viewed by the participant's teacher nor will they be used as part of student's grades. Participating schools will receive a final written report with the anonymous results of the overall study. The overall results of the study may also be shared with teachers in the local school district through professional development workshops and the results may be published in or presented at various professional and scholarly journals or conferences. Any presentation, report or publication resulting from this study will not contain any identifiable information regarding you, the class, the school, or the school district.

There are no known or anticipated risks associated with participation in this study. A copy of the questionnaires we are asking the participants to complete will be available for you to review in the school principal's office should you desire to do so. If you have any questions or concerns about this study please contact either Ken Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca or Amber Muir at (905)-941-9030 or am05wu@brocku.ca or the Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).

Your written consent is needed to allow your daughter to participate in completing the questionnaires. To indicate your consent, please complete the enclosed Informed Consent Form and return it to your daughter's physical education teacher as soon as possible. As well, if you wish to receive a summary of results, please provide your contact information on the back of the informed consent form. Thank you *very much* for enhancing the experience of physical education through your involvement in this study.

Sincerely,

Amber Muir, BPHED
Brock University

Ken Lodewyk, Ph. D
Brock University

Appendix D

Informed Consent Form

STUDY TITLE: *A Study of Beliefs and Emotions in Girls' High School Physical Education*

Principal Student Investigator: Ms. Amber Muir Principal Investigator: Dr. Ken Lodewyk

- Volunteering students will be asked to complete a short questionnaire (taking approximately 15 minutes) three times during a week games unit in their ninth-grade physical education class. The first questionnaire asks students to report their gender, ethnicity, age and student ID number. It and subsequent questionnaires ask students to rate (from 1-5 for example) statements based on their agreement or disagreement with each. It also provides students with five more general questions in which they can express the reasons for their ratings on those statements. There are no “right or wrong” answers to any of the items. Students’ involvement in the study will total on average 35 minutes or about 3.5% of the time allocated to the curricular unit. Students who choose not to participate will work quietly along with the rest of the class on an alternative curricular activity designed and approved by the classroom teacher. Each school and/or teacher will also be asked to provide participating students’ recent physical education grades.
- There are no known or anticipated risks associated with participation in this study. Completing the questionnaires will likely be an educational experience for the students. The questionnaires may ask students to disclose some information (e.g., self-confidence and anxiety) which may be deemed as sensitive. Though feelings of discomfort are very unlikely, if they occur, necessary and appropriate referral to a counsellor can and will be provided. All personal data and results will be kept strictly confidential. Since only the researcher will have access to the data (and will be stored in a locked office and shredded five years after the completion of the study) your daughter’s name will not be associated with specific behaviours or results.
- Your daughter’s participation in the study is voluntary and you and/or your daughter will have the option of withdrawing from the study at anytime for any reason without consequence. Your daughter’s physical education teacher will not have any access to completed questionnaires and their responses to the items on the questionnaires will not influence their grade in physical education. There will be no payment for your daughter’s participation.
- Participating schools will also be able to request professional development workshops for their teachers based upon the methods and results of the study. The results may be published in or presented at various professional and scholarly journals or conferences.
- There is no obligation for your daughter to answer any question that you or your daughter consider inappropriate. Before deciding to participate or anytime during or after the study, parents and participants are also welcome to view a copy of the questionnaires, which are available in the principal’s office at the school.

- This study has been reviewed and received clearance from the Research Ethics Board at Brock University (File #09-239), the Niagara Catholic District School Board and the school's principal.
- If you have any questions or concerns about this study please contact either Amber Muir at (905)-941-9030 or am05wu@brocku.ca , or Dr. Ken Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca , or the Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).
- If requested, feedback about the use of the data collected will be sent to you during the fall season of 2011. Please provide your name and mailing address on the back of this page if you wish to have information sent to you.
- Please complete the bottom portion of this consent form and then detach it (keep the top portion for your information) and return it to your daughter's physical education teacher as soon as possible. Thank you for considering participating in this study!

-----* * * * *

CONSENT FORM

Student's Name: _____ School: _____

- ☐ We have read and understood all relevant information pertaining to this study
- ☐ We understand that we or my child may ask questions in the future
- ☐ We give permission for my child to participate in the Brock University study conducted by Ms. Muir and Dr. Lodewyk.
- ☐ We do NOT give permission for my child to participate in the Brock University study conducted by Ms. Muir and Dr. Lodewyk.

Signature of Parent/Guardian: _____ Date: _____

Signature of Student: _____ Date: _____

Signature of Researcher(s): _____ Date: _____

Appendix E

Pilot Study Letter of Invitation

November 10, 2010

Dear Parents(s) or Guardian(s):

The following letter and consent form are to inform you of a pilot study we wish to conduct within your daughter's grade nine physical education class and to ask your permission for her to participate in the study. The title of this research is: *A Study of Beliefs and Emotions in Girls' High School Physical Education*. The study will be conducted by Ms. Amber Muir, a graduate student in the Master of Arts (Physical Education) program at Brock University under the supervision of Dr. Ken Lodewyk, an associate professor of Physical Education and Kinesiology at Brock University. The study has been reviewed and received clearance from the Research Ethics Board of Brock University (File #09-239), the Niagara Catholic District School Board, the school's principal, and your daughter's physical education teacher.

The general aim of this research is to discover how girls' emotions and confidence to learn and perform in ninth-grade physical education differ over time within a unit of instruction; and, how these relate to their PE grade and the reasons they give for their achievement. The research involves volunteering students completing a questionnaire during their physical education class that will take approximately 10-15 minutes. The questionnaire asks students to report their gender, ethnicity, age and student ID number as well as to rate (from 1-5 for example) statements based on their agreement or disagreement with each. It also provides students with a single general question in which they can express the reasons for their ratings on those statements. Students' involvement in the study will total on average 10-15 minutes of the time allocated to their class. Students will be involved in a group discussion with the researcher where they will provide feedback on their understanding of the questions and questionnaire.

Participation in the research project will be strictly voluntary. Should you allow your daughter to participate, you and/or your daughter will have the option of withdrawing from the study at anytime for any reason without consequence. Simply inform one of the researchers, teachers, or principal that you wish to withdraw from the study and your information will be removed upon your request. As well, you and your daughter have the right to not answer any question that you or your daughter consider inappropriate. Any students choosing not to participate will work quietly in the same classroom on an alternative activity designed by the classroom teacher and will still engage in all normal physical education class activities as instructed by their teacher.

Any data collected will remain confidential and the results will be kept confidential and anonymous. In other words, since students' names will not be requested on the questionnaires, their name will not be associated with their answers to the items. Any

data collected as part of the research study will not be viewed by the participant's teacher nor will they be used as part of student's grades. Participating schools will receive a final written report with the anonymous results of the overall study. The overall results of the study may also be shared with teachers in the local school district through professional development workshops and the results may be published in or presented at various professional and scholarly journals or conferences. Any presentation, report or publication resulting from this study will not contain any identifiable information regarding you, the class, the school, or the school district.

There are no known or anticipated risks associated with participation in this study. A copy of the questionnaires we are asking the participants to complete will be available for you to review in the school principal's office should you desire to do so. If you have any questions or concerns about this study please contact either Amber Muir at (905)-941-9030 am05wu@brocku.ca or Ken Lodewyk at (905) 688-5550 extension 5220 klodewyk@brocku.ca or the Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).

Your written consent is needed to allow your daughter to participate in completing the questionnaires. To indicate your consent, please complete the enclosed Informed Consent Form and return it to your daughter's physical education teacher as soon as possible. As well, if you wish to receive a summary of results, please provide your contact information on the back of the informed consent form. Thank you *very much* for enhancing the experience of physical education through your involvement in this study.

Sincerely,

Ms. Amber Muir
Brock University

Dr. Ken Lodewyk
Brock University

Appendix F

Pilot Study Informed Consent Form

STUDY TITLE: *A Study of Beliefs and Emotions in Girls' High School Physical Education*

Principal Student Investigator: Ms. Amber Muir Principal Investigator: Dr. Ken Lodewyk

- Volunteering students will be asked to complete a short questionnaire (taking approximately 15 minutes) within their ninth-grade physical education class. The first questionnaire asks students to report their gender, ethnicity, age and student ID number. It and subsequent questionnaires ask students to rate (from 1-5 for example) statements based on their agreement or disagreement with each. It also provides students with one more general question in which they can express the reasons for their ratings on those statements. There are no “right or wrong” answers to any of the items. Students who choose not to participate will work quietly along with the rest of the class on an alternative curricular activity designed and approved by the classroom teacher.
- Students will complete the survey and provide feedback to the researcher based on the layout and structure of the questions. Students are encouraged to provide comments regarding their understanding of questions and the questionnaire but not how they answered the questions.
- There are no known or anticipated risks associated with participation in this study. Completing the questionnaires will likely be an educational experience for the students. The questionnaires may ask students to disclose some information (e.g., self-confidence and anxiety) which may be deemed as sensitive. Though feelings of discomfort are very unlikely, if they occur, necessary and appropriate referral to a counsellor can and will be provided. All personal data and results will be kept strictly confidential. Since only the researcher will have access to the data (and will be stored in a locked office and shredded five years after the completion of the study) your daughter's name will not be associated with specific behaviours or results.
- Your daughter's participation in the pilot study is voluntary and you and/or your daughter will have the option of withdrawing from the study at anytime for any reason without consequence. Your daughter's physical education teacher will not have any access to completed questionnaires and their responses to the items on the questionnaires will not influence their grade in physical education. There will be no payment for your daughter's participation.
- Participating schools will also be able to request professional development workshops for their teachers based upon the methods and results of the study. The results may be published in or presented at various professional and scholarly journals or conferences.
- There is no obligation for your daughter to answer any questions that you or your daughter consider inappropriate. Before deciding to participate or anytime during or after the study, parents and participants are also welcome to view a copy of the questionnaires, which are available in the principal's office at the school.

- This study has been reviewed and received clearance from the Research Ethics Board at Brock University (File #09-239), the Niagara Catholic District School Board and the school's principal.
- If you have any questions or concerns about this study please contact either Amber Muir at (905)-941-9030 or am05wu@brocku.ca , or Dr. Ken Lodewyk at (905) 688-5550 extension 5220 or e-mail at klodewyk@brocku.ca , or the Brock University's Research Ethics Officer (905-688-5550 ext. 3035 or reb@brocku.ca).
- If requested, feedback about the use of the data collected will be sent to you during the fall season of 2011. Please provide your name and mailing address on the back of this page if you wish to have information sent to you.
- Please complete the bottom portion of this consent form and then detach it (keep the top portion for your information) and return it to your daughter's physical education teacher as soon as possible. Thank you for considering participating in this study!

-----✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂-----

CONSENT FORM

Student's Name: _____ School: _____

☐ We have read and understood all relevant information pertaining to this study

☐ We understand that we or my child may ask questions in the future

☐ We give permission for my child to participate in the Brock University study conducted by Ms. Muir and Dr. Lodewyk.

☐ We do NOT give permission for my child to participate in the Brock University study conducted by Ms. Muir and Dr. Lodewyk.

Signature of Parent/Guardian: _____ Date: _____

Signature of Student: _____ Date: _____

Signature of Researcher(s): _____ Date: _____

Appendix G

Updated Questionnaire Post Pilot Study

Survey on Your Feelings in the Games Unit of Physical Education (Repeated Measure)

The following questions ask you about your feelings in this games unit of physical education. Remember, there are no right or wrong answers, so please circle the number (1-7) for each question which best indicates your opinion. Do not spend too much time on any one statement but give the answer which seems to best describe your present feeling.

	Not at All True of Me			Somewha t True of Me			Very True of Me
	1	2	3	4	5	6	7
1. I'm sure I am learning the most difficult material from the activities in this games unit of PE.							
2. I'm confident I am learning the basic skills and concepts taught in this games unit of PE.	1	2	3	4	5	6	7
3. I'm confident I am performing the most difficult material taught by the PE teacher in this games unit.	1	2	3	4	5	6	7
4. I'm certain I am learning the skills being taught to me in this games unit of PE.	1	2	3	4	5	6	7
5. I believe I am receiving an excellent grade in this games unit of PE.	1	2	3	4	5	6	7
6. I'm confident I am doing an excellent job on the assignments and tests in this games unit of PE.	1	2	3	4	5	6	7
7. I am expecting to do well in this games unit of PE.	1	2	3	4	5	6	7
8. Knowing the teacher, my ability, and the difficulty of PE, I think I am doing well in this games unit of PE.	1	2	3	4	5	6	7

Currently, in this **games unit** ...

	Not at all	Some What	Moderately	Very Much
1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

Currently, in this **games unit** ...

	Disagree Strongly	Disagree	Somewhat Agree	Agree	Agree Strongly
1. I feel bored	1	2	3	4	5
2. I dislike it	1	2	3	4	5
3. It's no fun at all	1	2	3	4	5
4. It makes me depressed	1	2	3	4	5
5. It frustrates me	1	2	3	4	5
6. It's not at all interesting	1	2	3	4	5
7. I feel as though I would rather be doing something else	1	2	3	4	5
8. I feel worthless, powerless	1	2	3	4	5
9. I want to sink into the floor and Disappear	1	2	3	4	5
10. I feel like I am a bad person	1	2	3	4	5
11. I feel humiliated, disgraced	1	2	3	4	5
12. I feel small	1	2	3	4	5
13. I feel uptight about my physique/figure	1	2	3	4	5

	Disagree Strongly	Disagree	Somewhat Agree	Agree	Agree Strongly
	1	2	3	4	5
14. I am bothered by thoughts that the other people in the room are evaluating my weight or muscular development negatively.					
15. Unattractive features of my physique/figure make me nervous in this games unit of PE class.	1	2	3	4	5
16. I feel apprehensive about my physique/figure.	1	2	3	4	5
17. I am comfortable with how fit my body appears to the other students in this PE class.	1	2	3	4	5
18. It would make me uncomfortable to know that other people in this games unit of PE were evaluating my physique/figure.	1	2	3	4	5
19. When it comes to displaying my physique/figure in this games unit of PE class, I feel shy.	1	2	3	4	5
20. Sitting here in my PE clothes, I feel nervous about the shape of my body.	1	2	3	4	5
21. I feel relaxed when it is obvious that others are looking at my physique/figure.	1	2	3	4	5

Short Answer Question

Please explain the main factors in this **games unit** that are impacting your current feelings (environmental, social, physical etc.).

Survey on Your Feelings in the Games Unit of Physical Education (Post-Unit Measure)

Rate how successful your current performance is within this games unit of PE.

	Not Good at All		Somewha t Good		Very Good
	1	2	3	4	5
1. My current performance success in this games unit is					

2. The most important reason for why I rated myself this way is ...

3. Choose one statement for each question that best represents your answer in number 2 and then rate how true the statement is to your reason.

	Sort of True	Some What	Moderately	Really True
--	-----------------	--------------	------------	----------------

a. This reason is:
(circle one of the two statements below and

a number for your feeling about it):

Something I can control	1	2	3	4
or				
Something I cannot control				

b. This reason is:
(circle one of the two statements below and a
number for your feeling about it):

Something that can be changed	1	2	3	4
or				
Something that cannot be changed				

c. This reason is:
(circle one of the two statements below and a
number for your feeling about it):

Is because of me	1	2	3	4
or				
Is not because of me				

d. This reason is:
(circle one of the two statements below and a
number for your feeling about it):

Is under the control of other people	1	2	3	4
or				
Is not under the control of other people				

Thank you for completing this survey!

Appendix H

Semi-Structured Interview Questions

Personal History Information

- What is your age and gender?
- How many years have you been teaching?
 - How many years have you taught grade nine girls PE?
- How would you describe your pedagogy style for teaching grade nine girls PE?
- What is your main overarching philosophy on teaching?

Context Information

- What is the structure of the class?
 - How many students?
 - What time of the day?
 - Are there other classes occurring at the same time?
- How would you describe the environment of your classroom?
- What is the structure of the unit?
 - What is the structure of each lesson?
- How do you assess the student throughout the unit?
 - What assessment tools (if any) do you use?

Appendix I

Sample Soccer Lesson: Day One – Marisa’s Class

Description

This first lesson introduces the activity and the expectations of the module. For skill development, students will identify and apply the transferable and sport-specific skills related to ball control, passing and receiving, and kicking the ball with power.

Facilities and Equipment:

- One outdoor soccer field, one soccer ball for every two students (preferably one ball for every student) 15 pinnies, 12 pylons.

Expectation(s):

- PAV.01X, PAV.02X
- PAI.01X, PAI.02X, PAI.03X, PA2.01X, PA2.03X
- ALV.01X, ALV.02X
- AL1.01X, AL1.03X, AL2.03X

Assessment/Evaluation – Opportunities for Assessment

- Formative assessment using the kicking and receiving rubrics as a guide (See Appendix 3a and 3b).
- Formative self/peer assessment using observation checklist/rubric to assess participation/social skills/safety (Appendix A, B and C Public Course Profile).
- Formative assessment using the Fitness Blast achievement chart and reflection sheet to assess participation in fitness related activities (Activity Modules Overview Appendix 5).

Fitness Blast:

- Soccer Circuit, see Soccer Appendix 2.

Teaching/Learning Strategies

Skill Review/Experience

- The teacher will make observations during the Fitness Blast to determine skill/experience level of students.

Skill Development

- **“Ball Juggling”** - The students are presented with the challenge “Keep the ball in the air. Use any body parts except your hands and arms.” Give students an opportunity to practice.
 - Ask students, “What do you need to do to keep the ball up? (Look for: gentle contact, keeping ball close to body, flexible “flippy” ankle, wide contact area, top of toes, instep or outside, knee up high to hit ball up rather than out, good “ready position” to move under ball, keep eyes focused on the ball, think hacky sack.)
 - Students resume practice counting number of successful contacts.
 - Challenge students to use both dominant and non-dominant sides.
- **“Dribble”** – Introduce the dribble. Draw students’ attention to those parts of Drill #1 that will help with control. Students walk and dribble away. On a signal students stop and dribble-jog back. Emphasize ball control. Repeat activity using a slow jog instead of a walk.

Ex.. Sport Specific Skill-quick step to side of ball with non-striking foot.

Have students complete Drill #1 “Moving Pairs” (**diagram A**) page 114. Students , working in pairs pass the ball back and forth, while moving around the soccer field.

#4 Power Kicking: Discuss with students what part of the foot creates the most power, when contacting the ball. Also discuss the components of the Power Kick; preparation, execution and follow-through.

Ex. Transferable Skill-wide base, eye on target, and follow through in the direction of the target.

Ex. Sport-Specific Skill-strike ball with laces part of the foot.

Have students complete Drill #3 “Kicking for Power” (**Diagram B**), Pg. 115. Students power kick the ball to their partner across the field.

SKILL APPLICATION: “Mini Game” Divide the class into games of 4-on-4 or 5-on-5. Each team has a teammate who stays within three steps of a designated pylon (goalie). A team scores by passing/kicking the ball to their goalie teammate who catches it in her/his hands. See (**Diagram C**) pg. 116.

COOL-DOWN: Students jog around the goal posts, passing the ball back and forth with a partner. Discuss with students the transferable skill of sending and point out how the soccer pass/kick compares with other sports.

ASSESSMENT/EVALUATION: #1 Knowledge and Understanding Quiz
#2 Daily Application Mark

Appendix J

Fitness Testing Descriptions and Unit Breakdown – Jessica's Class

Monday

Modified Sit-Ups – Assesses abdominal strength and endurance.

- Student completes as many abdominal crunches as possible within 60 seconds.
The top number they complete is recorded

Modified Push- Ups – Assesses upper body and core strength and endurance.

- Student completes as many push-ups from their knees as possible in 60 seconds.
- The highest number they reach is recorded.

Tuesday

Long Jump – Assesses lower limb explosive strength.

- Student stands in a stationary position behind a marked line and jumps as far as possible with feet together. The furthest distance reached by the feet is recorded.

Sit & Reach (Flexibility) – Assesses flexibility of lower back and hamstring muscles.

- Student sits with their legs extended in front of them and their feet resting against a measuring device. The student leans forward and reaches their arms as far as they can along the measuring device, the number their fingers reach is recorded.

Wednesday

SNOW DAY

Thursday

Flexed Arm Hang – Assesses upper body endurance and strength.

- Student hangs from a horizontal bar for as long as possible, with the arms bent at 90 degrees. The time spent in this position is recorded.

Friday

Beep Test – Assesses cardiovascular endurance and strength.

- Student runs between two lines 20m apart, while keeping pace with audio signals emitted from a pre-recorded CD. The signals increase in speed with the increase in levels. The highest level achieved is recorded.

Appendix K

Fitness Testing Descriptions and Unit Breakdown – Patti's Class

Monday

Modified Sit-Ups – Assesses abdominal strength and endurance.

- Student completes as many abdominal crunches as possible within 60 seconds. The top number they complete is recorded

Modified Push- Ups – Assesses upper body and core strength and endurance.

- Student completes as many push-ups from their knees as possible in 60 seconds.
- The highest number they reach is recorded.

Long Jump – Assesses lower limb explosive strength.

- Student stands in a stationary position behind a marked line and jumps as far as possible with feet together. The furthest distance reached by the feet is recorded.

Tuesday

Flexed Arm Hang – Assesses upper body endurance and strength.

- Student hangs from a horizontal bar for as long as possible, with the arms bent at 90 degrees. The time spent in this position is recorded.

Wednesday

SNOW DAY

Thursday

Sit & Reach (Flexibility) – Assesses flexibility of lower back and hamstring muscles.

- Student sits with their legs extended in front of them and their feet resting against a measuring device. The student leans forward and reaches their arms as far as they can along the measuring device, the number their fingers reach is recorded.

Beep Test – Assesses cardiovascular endurance and strength.

- Student runs between two lines 20m apart, while keeping pace with audio signals emitted from a pre-recorded CD. The signals increase in speed with an increase in levels. The highest level achieved is recorded.

Friday

Cooperative games – Students who fully completed their fitness testing, engaged in low structured games organized by the teacher.

Make up Testing – Students who were absent throughout the week completed missed fitness testing assessments.

Appendix L

Fitness Testing Score Chart – Patti’s Class

Name: _____	Height: _____ft _____in	Age: _____
-------------	-------------------------	------------

Female Scores

Performance Level & Points	Flexed Arm Hang	Modified Sit-Ups	Sit & Reach	Modified Push-Ups	Long Jump	Beep Test
Excellent (5)	34 or more	54 or more	10 or more	33 or more	9 or more	1.74 or more
Good (4)	17 - 33	44 – 53	7 - 9	25 – 32	7.5 – 8.9	1.53 – 1.77
Average (3)	8 - 16	37 – 43	4 – 6	18 – 24	6.0 – 7.4	1.33 – 2.52
Fair (2)	3 – 7	31 – 36	1 – 3	12 – 17	4.5 – 5.9	1.23 – 1.32
Needs Improvement (1)	0 – 2	0 – 30	0 or less	1 - 11	4.5 or less	1.22 or less

Actual Test Scores

	Flexed Arm Hang	Modified Sit-Ups	Sit & Reach	Modified Push-Ups	Long Jump	Beep Test
Test Day #1	_____ sec.	_____ #	_____ in.	_____ #	_____ sec.	_____ %
Test Day #1 Points	_____ pt(s)	_____ pt(s)	_____ pt(s)	_____ pt(s)	_____ pt(s)	_____ pt(s)
Total Points _____				Overall Rating _____		
Goals for Midterm Testing	_____ sec.	_____ #	_____ in.	_____ #	_____ sec.	_____ %

Overall Scores

After you determine your total points, determine your overall fitness level and place it in the space provided.

28 – 30 Excellent Fitness

22 – 27 Good Fitness

16 – 21 Average Fitness

10 – 15 Fair Fitness

0 – 9 Need to Improve Current Fitness

Appendix M

Script for Presentation of Questionnaires

- Ensure you have sufficient quantities of female questionnaires and pencils.
- Collect the consent forms from the supervising teacher and any incoming ones from the students.

To the Class:

- Thank you for being willing to participate in this study
- I'm here today to ask you to complete a survey about your feelings and achievement in physical education that will take you about 15-20 minutes to complete during your PE class.
- Remember there are no correct answers. You just circle a number from 1-5 or 1-7 that best reflects how much you agree or disagree with each statement.
- The survey is confidential and anonymous which means that you do not put your name on it so we won't know who completed each one. But please complete it seriously and quietly on your own or we won't get reliable information.
- Completing the survey is voluntary. You can also discontinue it at any time. Your participation in this survey will not influence your grade in the course at all.
- If you need a pencil, I have extras.
- Thank you for your involvement in this important study.

Appendix N

Demographic Questionnaire

Survey on Your Feelings in Physical Education

1. Gender: (circle one) Male Female
2. Age: _____ Grade: _____
3. Ethnic Background: (circle one)

Afro-Canadian or Black	Asian-Canadian Caucasian or White
Hispanic or Spanish	Other: _____
4. If English is the second best language that you speak, what is your first best language?

5. Compared to your other academic courses in grade 9 what do you think about this PE course? (Circle yes or no for each question below)

a. the material seems interesting	Yes	No	
b. is difficult to get an A in	Yes	No	
c. requires to much effort	Yes	No	
d. has an effective teacher	Yes	No	
e. requires to much time out of class	Yes	No	
f. has difficult assignments	Yes	No	
6. Your academic average for all your past physical education courses (grades 6 to 8)? __ %

Appendix O

Measures for Assessment Points One & Two

Survey on Your Feelings in this Fitness Unit of Physical Education

The following questions ask you about your feelings in this Fitness unit of physical education. Remember, there are no right or wrong answers, so please circle the number (1-7) for each question which best indicates your opinion. Do not spend too much time on any one statement but give the answer which seems to best describe your present feeling.

	Not at All True of Me			Somewhat True of Me			Very True of Me
9. I'm sure I am learning the most difficult material from the activities in this Fitness unit of PE.	1	2	3	4	5	6	7
10. I'm confident I am learning the basic skills and concepts taught in this Fitness unit of PE.	1	2	3	4	5	6	7
11. I'm confident I am performing the most difficult material taught by the PE teacher in this Fitness unit.	1	2	3	4	5	6	7
12. I'm certain I am learning the skills being taught to me in this Fitness unit of PE.	1	2	3	4	5	6	7
13. I believe I am receiving an excellent grade in this Fitness unit of PE.	1	2	3	4	5	6	7
14. I'm confident I am doing an excellent job on the assignments and tests in this Fitness unit of PE.	1	2	3	4	5	6	7
15. I am expecting to do well in this Fitness unit of PE.	1	2	3	4	5	6	7
16. Knowing the teacher, my ability, and the difficulty of PE, I think I am doing well in this Fitness unit of PE.	1	2	3	4	5	6	7

Currently, in this Fitness unit ...

	Not at all	Some What	Moderately	Very Much
8. I feel calm	1	2	3	4
9. I am tense	1	2	3	4
10. I feel upset	1	2	3	4
11. I am relaxed	1	2	3	4
12. I feel comfortable	1	2	3	4
13. I am worried	1	2	3	4

Currently, in this Fitness unit ...

	Disagree Strongly	Disagree	Somewhat Agree	Agree	Agree Strongly
1. I feel bored	1	2	3	4	5
2. I dislike it	1	2	3	4	5
3. It's no fun at all	1	2	3	4	5
4. It makes me depressed	1	2	3	4	5
5. It frustrates me	1	2	3	4	5
6. It's not at all interesting	1	2	3	4	5
1. I feel as though I would rather be doing something else	1	2	3	4	5
8. I feel worthless, powerless	1	2	3	4	5
9. I want to sink into the floor and Disappear	1	2	3	4	5
10. I feel like I am a bad person	1	2	3	4	5
11. I feel humiliated, disgraced	1	2	3	4	5
12. I feel small	1	2	3	4	5
13. I feel uptight about my physique/figure	1	2	3	4	5

	Disagree Strongly	Disagree	Somewhat Agree	Agree	Agree Strongly
	1	2	3	4	5
14. I am bothered by thoughts that the other people in the room are evaluating my weight or muscular development negatively.					
15. Unattractive features of my physique/figure make me nervous in this Fitness unit of PE class.	1	2	3	4	5
16. I feel apprehensive (nervous) about my physique/figure.	1	2	3	4	5
17. I am comfortable with how fit my body appears to the other students in this PE class.	1	2	3	4	5
18. It would make me uncomfortable to know that other people in this Fitness unit were evaluating my physique/figure.	1	2	3	4	5
19. When it comes to displaying my physique/figure in this Fitness unit of PE class, I feel shy.	1	2	3	4	5
20. Sitting here in my PE clothes, I feel nervous about the shape of my body.	1	2	3	4	5
21. I feel relaxed when it is obvious that others are looking at my physique/figure.	1	2	3	4	5

Short Answer Question

Please explain the main factors in this Fitness unit that are affecting your current feelings (environmental, social, physical etc.).

Thank you for completing this survey!

Appendix P

Assessment Point Three Additional Measure

Survey on Your Feelings in the Fitness Unit of Physical Education (Post-Unit Measure)

Rate how successful your current performance is within this Fitness unit of PE.

	Not Good at All	2	Somewha t Good	4	Very Good
	1		3		5
1. My current performance success in this Fitness unit is					
2. The most important reason for why I rated myself this way is ...					
3. Choose one statement for each question below that best represents your answer in <u>number 2</u> and then rate how <u>true</u> the statement is to your reason.					
	Sort of True	Some What	Moderately	Really True	
a. <u>This reason is:</u> (circle one of the two statements below and then circle a number for your feeling about it):					
Something I can control or Something I cannot control	1	2	3	4	
b. <u>This reason is:</u> (circle one of the two statements below and then circle a number for your feeling about it):					
Something that can be changed or Something that cannot be changed	1	2	3	4	
c. <u>This reason is:</u> (circle one of the two statements below and then circle a number for your feeling about it):					
Is because of me or Is not because of me	1	2	3	4	
d. <u>This reason is:</u> (circle one of the two then circle a number for your feeling about it):					
Is under the control of other people or Is not under the control of other people	1	2	3	4	

Thank you for completing this survey!

Appendix Q

Table 1.1

Students' Fluctuating Emotions over the Course of a Single Fitness Unit

Day One	Day Two	Day Three
Everyone seems to be friends with one another and it is easier to be comfortable with one another	No response	Don't wanna get a bad mark
No response	Nothing!	The beep test, not improving...
Social - when other people come in and watch	Social	Social - good we all get along - environment comfortable
The main factor I think about is that I do better than the last time and hopefully I became stronger	I am happy with what I have accomplished so far	I am happy with my overall score
I feel like sometimes I could do better at some things and I feel like I have to do as good as the other girls	The environmental is comfortable and we all get along well	No response
Nervous when other guys (older) look through the window to watch us	Nothing	Nothing
Excited, ready, happy	Fine	No response
I like fitness testing, it's fun and challenges what I can do, to make me do it at my best	Same as other one I feel fine	Nothing

Table 1.2

Students' Consistently Positive Experience During the Fitness Unit

Day One	Day Two	Day Three
I feel normal in this PE class I'm not uncomfortable or nervous from the people around me and I'm comfortable with my body	I feel comfortable with everything	I feel calm
I like this unit because I feel good about the way we do things and it doesn't bother me if others see me in my	It doesn't bother me that others see me in my [PE] clothes	Response was not related to the students' emotion and has no relevance to the research question and thus

gym clothes		has been removed
The social factors are great even though everyone has different strengths and body types we are all in the same boat	Same as last sheet	Same [as first response]
Fitness testing is fun cause each time I get to challenge myself more and more and work hard and do good	I am confident in everything I do I know I do my best and that's all I can do. If people aren't happy with it, then that's too bad cause I tried. Fitness and PE are both lots of fun	Same thing as last time
Nothing I heart [love] P.E.	Nothing I heart [love] P.E.	No response

Table 1.3

Students' Consistently Negative Experience During the Fitness Unit

Day One	Day Two	Day Three
My physical shape of my body is somewhat up to par I sometimes do not enjoy class because people aren't always nice (people talk about people) I don't like the uniform: I feel out of shape	People talk about people - I don't like the fitness uniform	People talk about people - I don't like fitness testing I'm not the best at it
Maybe it is that I am not comfortable with my body & I think other people will judge me and make fun of me & that'd make me feel worse	No response	The beep test makes me feel anxious and stressed
Sometime is social because I cannot communicate well with other people and physical because I am uncomfortable with my body	Social because I cannot communicate well with the other girls - physical because I don't like how I look	Social because I cannot communicate well with others - physical because I don't like at all my physique/figure
I feel bad because I can't explain at all I feel uncomfortable with me physical (Spanish first language)	No response	I can't explain at all with people
The main factors in this fitness unit that effects my	No response	Not in shape

feelings is my body		
A few [factors] are and may be affecting my feelings that can cause my grade to drop or what people may be saying about me	No response	How I have went down in all the events this week while doing fitness
When I hear that we are doing fitness testing I wanna give up because the grade 10 & 12 guys are watching us. they mock us it's scary	The grade 10 & 11 boys watching us in our gym class it makes it uncomfortable	Boys watching us
Physical appearance - people watching -not looking athletic	How I look - if I look awkward - if I look bad or poorly - people watching	People watching - what I look like
I dislike running its boring and annoying. I am not a good athlete so I feel uncomfortable amongst good runners and athletes	I don't like running. I'm not a good runner	Not a runner. Hate fitness testing and beep test. Hate running
The main factors that are affecting my feelings are my weight and how everyone else is so like small and skinny. I feel like everyone may be making comments based on my weight even though they probably aren't. I feel bad during fitness testing if someone gets a higher mark it makes me feel that they got it because they were skinner than me, I feel very uncomfortable with myself around other people	The fact that everyone is smaller than me and that people do better than me	No response
When the old boy's look through the windows it makes feel nervous and scared	When the older guys look through the window I feel nervous	When the older students watch us I feel uncomfortable

Table 1.4

Students' Simultaneous Positive and Negative Feelings within each Day (Class) of the Fitness Unit

Day One	Day Two	Day Three
I like this class just the fact	Not reaching my goals	Nothing

of judging my figure is bothering me other than that nothing is bothering me	otherwise I am fine	
Nothing affects me really, though I feel uncomfortable comparing my fitness to others in the class	The current factors that are affecting my current feelings are about my physique of my body	I don't like comparing my physical skills to others
Sometimes I feel like some of the girls are judging me - also when the grade 10 boys watch they openly mock us and it sucks. But besides all that I enjoy P.E./fitness	I hate when people are clearly looking at me	Same as last time
I'm not strong so it makes me feel nervous to do [fitness testing] - others watching make fun of us for no apparent reason but because they're 'bored' which makes me feel uncomfortable. Besides fitness testing I love gym, fitness	I can't run long distances, for a long time	No response
When fitness comes up I feel confident with what I do but when it comes to things using upper body strength, I fail because my upper body strength is weak. With everything that I do I try my hardest and best and push myself!	During gym, I have a lot of fun and try to do the best I can. I am confident and push myself but when it comes to activities using upper strength, I start to fail because that is something I need to work on.	No response

Table 2.1

Students' Fluctuating Emotions During the Soccer Unit

Day One	Day Two	Day Three
If my friends are with me than I'm alright. I feel good when I play soccer just because I love the sport	The certain drills we do are not what I am best at so it brings down my confidence	No response
This soccer unit affects my feelings somewhat. I am not the greatest soccer player so that made me a bit shy/tense. However I had a	I like the environment of the gym, its calm. At times my body bothers me and I don't like the feeling of being watched	There are no main factors that affected my feelings today

good time playing this game with my peers. Having good friends around me allowed me to be calmer

Social: communication while passing - environmental: comfortable, we have gym here every day - physical keeping me active	I think that this soccer unit is fun but can also be boring at times	Playing the actual sport is better than learning the skills such as passing and receiving
This soccer unit is affecting me by I lost my grandpa over the holiday	The main factors in this soccer unit, my feelings are really good about it	The main factors in this soccer unit is that I am enjoying it a lot and it is lots of fun
I feel a bit better because I got some exercise but I also feel embarrassed because I'm not athletic	I feel better than before because I feel like I have put more effort into it now. I'm enjoying it	No response
One main factor of this unit that is affecting me is that I sometimes feel emotionally stressed out	The main factors in this soccer unit are currently not affecting me socially or in any other way	There are no main factors in this soccer unit that are affecting my feelings
It [soccer unit] makes me feel happy because I get to spend time with my friends	I'm happy because I get to spend time with my friends	It's [soccer unit] not affecting me because I get to spend time with my friends
I feel good but also emotionally stressed but I feel great when I'm playing	This unit is not affecting me at all I'm enjoying my self - I'm having fun with all my classmates	There are no main factors that are affecting my current feelings
As I play I get better than what I was before and people now trust me with the ball	When I play soccer I feel that people judge me because I am not good	No response

Table 2.2

Students' Consistently Positive Experience During the Soccer Unit

Day One	Day Two	Day Three
When I play soccer I feel very energized and happy I feel healthy and it allows me to interact with my classmates in a positive way	When I play soccer it allows me to have a good time and interact with all my peers	I feel energized and happy while playing soccer. I also feel excited because you get to get closer with friends
I feel very included and safe because I enjoy my time and playing soccer and I	I enjoy playing soccer because it is one of my favourite sports so when I	it makes me happy to know that everyone is enjoying themselves together

have fun	play I am calm and relaxed	
I feel good about this soccer class and I don't feel shy but I also play soccer for a very competitive league so I am used to it	The main factors in this soccer unit that are affecting my current feelings is good happy and exciting because I love soccer	Happy - confident - energized - feels good
I feel comfortable around my friends and I feel like I'm in a good friendly environment and I don't have to be shy and I'm confident with the way I look	I feel comfortable displaying my soccer skills and I feel that I am in a good friendly environment where people won't make fun of me. I am confident with my figure	It's fun to play with your friends and I know they wouldn't judge me!
No response	It affected my current feelings because it was fun	It makes me happy!
Soccer is a good sport I'm just not that good at it I try but I don't care as much of what people think about me	No response	I feel comfortable with the girls I do gym with I am not bothered or anything
Response was not related to the students' emotion and has no relevance to the research question and thus has been removed	Energetic - happy - better at soccer - stronger	Happy - energized - confident - feel good
I like this people in the class, it's easy to get good marks, and it's not difficult to understand soccer concepts or have fun while playing it	Social - fun - easy	Fun - with friends
It's fun and social because I get to be with my friends. I'm always excited for gym	I think soccer is fun and I like it I feel happy and excited	I feel happy and energized - gym is cool
I think the social factor of playing soccer makes it more fun because we were not all good at it and we joke around with each other	I feel great after gym class! I love being active everyday	I love doing gym class and staying active
I feel social because you get to interact with others it's fun because you can play the way you want with only some rules	My feelings during this unit are social because you can be partners with new people you don't usually talk to and happy because you are with friends and energetic because you are constantly moving	My feelings are social because we are with friends energetic because we are running happy because we are doing something fun
I feel good after doing P.E.	I feel happy and energetic and I get to socialize with friends	I feel good when participating in PE and I

		feel very energetic
I feel great after playing soccer and having fun. Soccer is a game everyone can have fun if you play and work hard!	The main factors are social I feel not as good as some players but I have fun and try my best	In this unit I feel like I am learning and having fun like everyone
Nothing - I like this unit and I feel totally comfortable in it	I feel fine happy like I always am	I feel the same all the time normally happy
Everyone makes sure to count you in the games, you get to move around get your energy out and I don't feel people are judging me	It is fun to do PE when you know other people so you don't feel nervous	I feel full of energy nothing in gym bother me
The people in my gym class make me feel happy - the teachers make it welcoming	The people in my class make me happy and the teachers are supportive	The people in it make me happy
To me it is just another gym unit I have fun in all the units that we do	I always enjoy every unit so I very much enjoy this unit. I feel comfortable in this unit	I love it. It makes me feel happy
I feel great after every gym class - being with my friends and soccer is a sport I'm very comfortable with	I feel great after every gym class	I heart [love] gym it makes me feel great

Table 2.3

Students' Consistently Negative Experience During the Soccer Unit

Day One	Day Two	Day Three
I just feel when I'm running and doing something I love that everything inside me that I wish I could say, the erg to say these things go away	Being pushed bumped comments being made to me	I'm scared cause every guy is staring at me and I get nervous
No response	I don't really like soccer so I don't really have feelings for it	I don't like soccer so I have no feelings

Table 2.4

Students' Simultaneous Positive and Negative Feelings within a Single Day (Class) of the Soccer Unit

Day One	Day Two	Day Three
When I play I feel happy but sometimes like I am not	I feel bothered a little by thoughts of others, but I feel	I feel comfortable and that I am learning everything I

good enough, therefore I tend to worry and be a little shy on how well I play	comfortable playing and with my body	need to know in soccer
I feel good but also emotionally stressed but I feel great when I'm playing	This unit is not affecting me at all I'm enjoying my self - I'm having fun with all my classmates	There are no main factors that are affecting my current feelings
This soccer unit affects my feelings somewhat. I am not the greatest soccer player so that made me a bit shy/tense. However I had a good time playing this game with my peers. Having good friends around me allowed me to be calmer	I like the environment of the gym, its calm. At times my body bothers me and I don't like the feeling of being watched	There are no main factors that affected my feelings today
When I was playing with my friends I found it fun. It was way more fun than doing another subject that involves lots of work. I found that fun. Also I felt good about myself that I was running around	I find it fun to socialize with my friends but at the same time I don't like soccer so it is somewhat boring	It is fun to play with my friends but I don't like soccer so it is boring
I felt energized and I felt happy b/c I was with my friends	Being with my friends makes me happy. Afterwards I feel somewhat tired and stressed more	Running making me feel more powerful. Happy to be with friends
I feel a bit better because I got some exercise but I also feel embarrassed because I'm not athletic	I feel better than before because I feel like I have put more effort into it now. I'm enjoying it	No response

Appendix R

Table 3.1

Students' Reported Positive Emotions Experienced within the Fitness Unit

Positive emotions
I am comfortable with my feelings to the environment social/physical etc.!
I like this unit because I feel good about the way we do things and it doesn't bother me if others don't see me in my gym clothes
I like this unit because I feel good about the way we do things and it doesn't bother me if others don't see me in my gym clothes
It doesn't bother me that others see me in my clothes
I feel calm
Social - good we all get along - environment comfortable
I feel comfortable with everything
The environmental is comfortable and we all get along well
Excited, ready, happy
Nothing I like fitness testing, it's fun and challenges what I can do, to make me do it at my best
nothing I heart [love] P.E.
Fitness testing is fun cause each time I get to challenge myself more and more and work hard and do good
I like this class just the fact of judging my figure is bothering me other than that nothing is bothering me
Sometimes I feel like some of the girls are judging me - also when the grade 10 boys watch they openly mock us and it sucks- but besides all that I enjoy P.E./fitness
When fitness comes up I feel confident with what I do but when it comes to things using upper body strength, I fail because my upper body strength is weak. With everything that I do I try my hardest and best and push myself!
There are no main factors in this fitness unit. I feel very comfortable and calm with my appearance
I am confident in everything I do I know I do my best and that's all I can do. If people aren't happy with it, then that's too bad because I tried. Fitness and PE are both lots of fun
I am happy with what I have accomplished so far
During gym, I have a lot of fun and try to do the best I can. I am confident and push myself but when it comes to activities using upper strength, I start to fail because that is something I need to work on.
I am happy with my overall score

Table 3.2

Students' Reported Negative Emotions Experienced within the Fitness Unit

Negative emotions
I feel like sometimes I could do better at some things and I feel like I have to do as good as the other girls

Maybe it is that I am not comfortable with my body & I think other people will judge me and make fun of me & that'd make me feel worse

Sometime is social because I cannot communicate well with other people and physical because I am uncomfortable with my body

I feel bad because I can't explain at all I feel uncomfortable with me physical (Spanish first language)

Environmental - nothing; social - when the boy gym class walks in because they might make fun of me; physical - when I get tired but the people around me aren't even sweating. It makes me feel like I'm not as 'fit' as they are

A few [factors] are and may be affecting my feelings that can cause my grade to drop or what people may be saying about me

The main factors in this fitness unit that effects my feelings is my body

Sometimes the lights make me more tired and make me not want to be as active, also some girls in the class have been talking bad about me behind my back and it makes me uncomfortable

Social - when other people come in and watch

My physical shape of my body is somewhat up to par I sometimes do not enjoy class because people aren't always nice (people talk about people). I don't like the uniform and I feel out of shape

People talk about people - I don't like the fitness uniform

Social because I cannot communicate well with the other girls - physical because I don't like how I look

The beep test makes me feel anxious and stressed

Social because I cannot communicate well with others - physical because I don't like at all my physique/figure

Not in shape

We have to do the beep test today and I haven't done that in a while. I have to beat my score from last time but because I haven't been exercising as much as I used to I might not get a higher score

Don't wanna get a bad mark

How I have went down in all the events this week while doing fitness

The beep test, not improving...

People talk about people - I don't like fitness testing I'm not the best at it

When I hear that we are doing fitness testing I wanna give up because the grade 10 & 12 guys are watching us. They mock us it's scary

Physical appearance - people watching -not looking athletic

I like this class just the fact of judging my figure is bothering me other than that nothing is bothering me

I dislike running its boring and annoying. I am not a good athlete so I feel uncomfortable amongst good runners and athletes

Nothing affects me really, though I feel uncomfortable comparing my fitness to others in the class

The main factors that are affecting my feelings are my weight and how everyone else is so like small and skinny. I feel like everyone may be making comments based on my weight even though they probably aren't. I feel bad during fitness testing if someone gets a higher mark it makes me feel that they got it because they were skinner than me, i feel

very uncomfortable with myself around other people
Sometimes I feel like some of the girls are judging me - also when the grade 10 boys watch they openly mock us and it sucks- but besides all that I enjoy P.E./fitness
I'm not strong so it makes me feel nervous to do - others watching make fun of us for no apparent reason but because they're 'bored' which makes me feel uncomfortable. Besides fitness testing I love gym, fitness
When the old boy's look through the windows it makes feel nervous and scared
Physical reasons - I'm not anywhere near being an athlete. Perhaps social reasons - I feel judged by others who perform activities better
Nervous when other guys (older) look through the window to watch us
The grade 10 & 11 boys watching us in our gym class it makes it uncomfortable
How I look - if I look awkward - if I look bad or poorly - people watching
The current factors that are affecting my current feelings are about my physique of my body
The fact that everyone is smaller than me and that people do better than me
When the older guys look through the window I feel nervous
Boys watching us
People watching - what I look like
Not a runner. Hate fitness testing and beep test. Hate running
I don't like comparing my physical skills to others
When the older students watch us I feel uncomfortable

Table 4.1

Students' Reported Positive Emotions Experienced within the Soccer Unit

Positive emotions
I feel very included and safe because I enjoy my time and playing soccer and I have fun
I feel good about this soccer class and I don't feel shy but I also play soccer for a very competitive league so I am used to it
I feel good but also emotionally stressed but I feel great when I'm playing
I feel comfortable around my friends and I feel like I'm in a good friendly environment and I don't have to be shy and I'm confident with the way I look
It makes me feel happy because I get to spend time with my friends
When I play I feel happy but sometimes like I am not good enough, therefore I tend to worry and be a little shy on how well I play
Today in the soccer I felt very calm and I was having fun
If my friends are with me than I'm alright. I feel good when I play soccer just because I love the sport
This soccer unit affects my feelings somewhat. I am not the greatest soccer player so that made me a bit shy/tense. However I had a good time
When I was playing with my friends I found it fun. It was way more fun than doing another subject that involves lots of work. I found that fun. Also I felt good about myself that I was running around
I like this people in the class, it's easy to get good marks, and it's not difficult to understand soccer concepts or have fun while playing it

I enjoy playing soccer because it is one of my favourite sports so when I play I am calm and relaxed

Passing the ball back and forth bores me and doesn't worry me at all

Passing the ball back and forth bores me and doesn't worry me at all

This unit is not affecting me at all I'm enjoying my self - I'm having fun with all my classmates

I think that this soccer unit is fun but can also be boring at times

I feel comfortable displaying my soccer skills and I feel that I am in a good friendly environment where people won't make fun of me. I am confident with my figure

I'm happy because I get to spend time with my friends

It affected my current feelings because it was fun

I feel bothered a little by thoughts of others, but I feel comfortable playing and with my body

I like the environment of the gym, its calm. At times my body bothers me and I don't like the feeling of being watched

The main factors in this soccer unit, my feelings are really good about it

Energetic - happy - better at soccer – stronger

I find it fun to socialize with my friends but at the same time I don't like soccer so it is somewhat boring

It makes me happy to know that everyone is enjoying themselves together

Happy - confident - energized - feels good

It's fun to play with your friends and I know they wouldn't judge me!

It makes me happy!

I feel comfortable with the girls I do gym with I am not bothered or anything

I feel comfortable and that I am learning everything I need to know in soccer

The main factors in this soccer unit is that I am enjoying it a lot and it is lots of fun

Happy - energized - confident - feel good

It is fun to play with my friends but I don't like soccer so it is boring

Fun - with friends

It's fun and social because I get to be with my friends. I'm always excited for gym

I think the social factor of playing soccer makes it more fun because were not all good at it and we joke around with each other

I felt energized and I felt happy because I was with my friends

I feel social because you get to interact with others it's fun because you can play the way you want with only some rules

I feel great after playing soccer and having fun. Soccer is a game everyone can have fun if you play and work hard!

Nothing - I like this unit and I feel totally comfortable in it

Everyone makes sure to count you in the games, you get to move around get your energy out and I don't feel people are judging me

The people in my gym class make me feel happy - the teachers make it welcoming

To me it is just another gym unit I have fun in all the units that we do

I feel great after every gym class - being with my friends and soccer is a sport I'm very comfortable with

When I play soccer I feel very energized and happy I feel healthy and it allows me to

interact with my class mates in a positive way
I think soccer is fun and I like it I feel happy and excited
My feelings during this unit are social because you can be partners with new people you don't usually talk to and happy because you are with friends and energetic because you are constantly moving
I feel happy and energetic and I get to socialize with friends
I feel better than before because I feel like I have put more effort into it now. I'm enjoying it
The main factors are social I feel not as good as some players but I have fun and try my best
The people in my class make me happy and the teachers are supportive
I always enjoy every unit so I very much enjoy this unit. I feel comfortable in this unit when I play soccer it allows me to have a good time and interact with all my peers
I feel happy and energized - gym is cool
Running making me feel more powerful happy to be with friends
My feelings are social because we are with friends energetic because we are running happy because we are doing something fun
In this unit I feel like I am learning and having fun like everyone
I feel full of energy nothing in gym bother me
I feel energized and happy while playing soccer. I also feel excited because you get to get closer with friends
I love it makes me feel happy

Table 4.2

Students' Reported Negative Emotions Experienced within the Soccer Unit

Negative emotions
I feel good but also emotionally stressed but I feel great when I'm playing
One main factor of this unit that is affecting me is that I sometimes feel emotionally stressed out
When I play I feel happy but sometimes like I am not good enough, therefore I tend to worry and be a little shy on how well I play
This soccer unit affects my feelings somewhat. I am not the greatest soccer player so that made me a bit shy/tense. However I had a good time playing this game with my peers. Having good friends around me allowed me to be calmer
Passing the ball back and forth bores me and doesn't worry me at all
I feel bothered a little by thoughts of others, but I feel comfortable playing and with my body
I like the environment of the gym, its calm. At times my body bothers me and I don't like the feeling of being watched
The certain drills we do are not what I am best at so it brings down my confidence
When I play soccer I feel that people judge me because I am not good
I find it fun to socialize with my friends but at the same time I don't like soccer so it is somewhat boring
It is fun to play with my friends but I don't like soccer so it is boring

I don't like soccer so I have no feelings

I feel a bit better because I got some exercise but I also feel embarrassed because I'm not athletic

Being pushed bumped comments being made to me

The main factors are social I feel not as good as some players but I have fun and try my best

I'm scared cause every guy is staring at me and I get nervous

Appendix S

Table 5.1

Students' Emotions Related to their PE grade within the Fitness Unit

Student achievement	
Positive Emotions	Negative Emotions
I am happy with what I have accomplished so far	I feel bad during fitness testing when someone gets a higher mark. It makes me feel that they got it because there were skinnier than me
I am happy with my overall score	Not reaching my goals
	Affecting my feelings is the thought that my grade can drop
	My grade will drop because of certain sports
	I have to do the beep test today and I haven't done that in a while. I have to beat my score from last time but because I haven't been exercising as much as I used to, I might not get a higher score
	I have went down in (score) at all the events this week while doing fitness.
	Beep test not improving

Table 5.2

Students' Emotions Related to their PE Grade within the Soccer Unit

Student achievement	
Positive emotions	Negative emotions
It's easy to get good marks	
I find as long as you run for the ball you get good marks for effort	